Malsch
care & clinic design®

CARE DESIGN

CARE BEDS INSTRUCTION MANUAL

IMPULSE | AURA

Malsch
care & clinic design®

Dear Customers,

By purchasing a care bed from Malsch care & clinic design®, you have obtained a long-lasting medical product with functions that meet all the requirements of everyday care while maintaining the highest safety standards.

Thank you very much for the trust you have placed in us.

Our company guarantees carefully selected materials and continuous quality control while employing state-of-the-art production technologies.

Complying with the usage and operating instructions helps to prevent the risk of accidents and preserves the high value of your care bed.

CONTENTS

IMPULSE care bed product range 6

AURA care bed product range 7

Specific function 8

Environmental sustainability 8

Notes to the instruction manual 9

Pictograms / symbols 9

Safety instructions 10

IMPULSE care bed technical data 14

IMPULSE care bed electrical drives 15

AURA care bed technical data 16

AURA care bed electrical drives 17

Rating plate 18

Rating plate with UDI 18

HC-146 hand controller symbols 21

Care bed **IMPULSE Editions 100 / 400 / 400 LR / 400 ZB**
Care bed **IMPULSE Edition XL** (version with Trendelenburg position) 21

Care bed **IMPULSE Edition XL**
(version without Trendelenburg position,
Care bed **AURA / AURA LR** 22

HC-147 hand controller symbols 23

Care bed IMPULSE Editions 420 / 420 LR 23

HB-400 hand controller symbols 24

Care bed IMPULSE Editions 400 / 400 LR / 400 ZB / 500
Care bed AURA / AURA LR 24

Functions 25

IMPULSE care bed with undercarriage **Edition 100** 25

IMPULSE care bed with undercarriage **Edition 400** 26

IMPULSE care bed with undercarriage **Edition 400 LR** 27

IMPULSE care bed with undercarriage **Edition 420** 28

IMPULSE care bed with undercarriage **Edition 420 LR** 29

IMPULSE care bed with undercarriage **Edition 500** 30

IMPULSE care bed with undercarriage **Edition XL** 31

AURA care bed 32

AURA LR care bed 33

Description of function 34

Back rest 34

Mechanical back rest release / CPR 34

Adjustable upper / lower leg support 35

Auto contour 35
Height adjustment 35
Transfer position 35
Low position / fall prevention 36
Trendelenburg position 36
Anti-Trendelenburg position 37
Comfort sitting position 37
Hand controller locking function 38
Braking and moving 39
Adjust DS side rails 42
Adjust GS side rails 44
Adjust VGS side rails 46
Adjust EVGS side rails 47
Integrated bed extension 50
Maintenance 52
Procedure 52
Battery replacement 54
Maintenance intervals 55
Delivery and assembly 55
Disposal instructions 56
Accessories (optional) 57
Trapeze bar 57
IV drip holder 57
Bed light 57
Hand control holder 58
Integrated bed linen holder 58
Troubleshooting 59
Product safety 60
Cleaning and disinfection 61
Safe decommissioning / storage 62
Electromagnetic compatibility (EMC) 63
Warranty and service 66
Customer service 66
Declaration of conformity 66
Certificates 67

IMPULSE CARE BED PRODUCT RANGE

IMPULSE care bed with undercarriage
Edition 100 “Style”

IMPULSE care bed with undercarriage
Edition XL

IMPULSE care bed with undercarriage
Edition 500

IMPULSE care bed with undercarriage
Edition 400

IMPULSE care bed with undercarriage
Edition 400 LR

IMPULSE care bed with undercarriage
Edition 420

IMPULSE care bed with undercarriage
Edition 420 LR

AURA CARE BED PRODUCT RANGE

AURA care bed

AURA LR care bed

SPECIFIC FUNCTION

The care beds made by Malsch GmbH are used in the care of patients with physical limitations. The beds are designed exclusively for this purpose. The functions of these care beds assist the care staff in their daily work and offer convenient solutions for positioning the patient and compensating for certain symptoms experienced by patients of retirement and care homes or comparable medical facilities. This complies with working environment 3 and 5 as stipulated by IEC 60601-2-52:2009 / AMD1:2015.

Prior written consent from Malsch GmbH is required if the care beds are to be used for other applications.

The product is intended for use as a care aid or health device. As such, it is subject to the regulations of the relevant insurance associations. The care bed is a medical product according to applicable industry standards and regulations. Therefore, this product must only be used under medical supervision.

The care beds described in this instruction manual are intended for adult residents with a body weight of at least 40 kg and a height of at least 146 cm. In accordance with the standard IEC 60601-2-52:2009 / AMD1:2015, the beds must not be used by residents whose body weight and height are below these limits or who have a BMI under 17, as the risk of injury is increased for this group.

Caution! The use of incompatible side rails and mattresses can lead to injury as body parts may become trapped.

ENVIRONMENTAL SUSTAINABILITY

Malsch GmbH care beds are manufactured in line with the relevant regulations using state-of-the-art processing technologies and are free from hazardous materials. The materials used to finish surfaces are CFC and solvent-free.

Care beds that are taken out of service due to their age or irreparable damage must be disposed of in line with disposal regulations.

Caution! Observe the relevant local regulations when disposing of metal, wood and electrical waste.

NOTES TO THE INSTRUCTION MANUAL

The following instructions and guidelines in this instruction manual are intended for care staff or other persons and staff tasked with operating and using the care bed.

The instruction manual must be accessible to personnel at all times to avoid operating errors and to guarantee fault-free operation. The care staff must have a good understanding of the care beds and be trained in their operation before using them for the first time. The instruction manual must be used for this training.

The instruction manual has been written for the IMPULSE and AURA care beds. The images, graphics and texts they contain may differ from the equipment supplied.

The manufacturer offers technician training for maintenance and servicing work on their care beds. A certificate obtained as part of this training authorises the holder to carry out technical work independently on the beds.

PICTOGRAMS / SYMBOLS

For better orientation, this instruction manual uses the pictograms described below.

Important!
Instructions labelled in this way must be strictly observed in order to avoid injury or damage!

Information!
This pictogram identifies information relating to the current subject.

SAFETY INSTRUCTIONS

It is important that the following safety instructions are observed to prevent risks to residents and carers and to avoid any damage to the bed:

⚠ The instruction manual must be read and observed before using the care bed.

⚠ The information on the rating plate must be observed! The information on the rating plate is explained in detail on ☞ *p. 18* of this instruction manual.

⚠ In the event of any faults or defects that could endanger persons, the bed must not be used.

⚠ Electrically adjustable care beds must only be operated by the resident following instruction by trained staff.

⚠ Before the bed is used for the first time, the operator must ensure that it is safe to use and in good condition.

⚠ The castors must always be set to the braked position to ensure the resident does not fall when getting into or out of the bed.

⚠ The bed can be moved into various positions. When doing so, take care to ensure no parts of the body or other objects are located in the adjustment area.

⚠ Only care staff are permitted to adjust the side rails. When adjusting the sleeping surface position, take care to ensure the resident does not come into contact with the side rails to avoid trapping any part of the body.

⚠ The functionality of the side rails must be checked every day. They must not bear any load of over 75 kg vertically or over 50 kg horizontally.

⚠ When using CPR (optional, mechanical emergency lowering of the back rest), always additionally relieve the load on the back rest by hand to prevent the back rest from dropping in an uncontrolled manner.

⚠ The IMPULSE and AURA care beds feature a battery-operated emergency mode. This allows the one-off lowering of the sleeping surface in the event of a power cut. The 9-V batteries (not used in the HB-400 hand controller) in the control unit must be checked during the annual technical safety check and replaced at least every two years.

⚠ The functions of the hand controller can be locked or released by means of a key switch on the rear side (☞ *p. 21-20 hand controller symbol)* or with a magnetic chip on the front side (☞ *p. 24 hand controller symbol)*. Check that the locking function has taken effect on the hand controller.

⚠ The drive system used must be operated using a VDE-approved power source – 100–240 V, 50 / 60 Hz mains socket.

⚠ The mains connection cable is also protected by a mechanical strain relief device. Nevertheless, take care to ensure that no sharp edges, mechanical loads or pinch / shear points are present.

⚠ The design of the hand controller means it can be hung on the bed in such a way that the buttons cannot be activated inadvertently by squashing between two objects. Take care to ensure that the hand controller is fully accessible and not trapped between the side rails and bedside table.

⚠ Observe safety distances to walls, window ledges and other furnishings when using the care bed in a resident's room. The safety distances depend on the design and model of the care bed and are based on the height adjustment and the tilting motions of the bed. The minimum distance is 30 mm.

⚠ Improper use of the bed may cause hazards. Examples of improper use include:

- Unauthorised activation of the electrical functions
- Use of the bed by persons with a body weight of less than 40 kg or a BMI of less than 17 or a height of less than 146 cm. ☞ *p. 8 Specific function*
- Moving the bed by pulling on the mains cable or side rails
- More than one person adjusting the bed at the same time
- Activation of the functions by the resident without prior instruction
- Pulling the mains cable to disconnect it from the power supply
- Moving the bed on sloping or unsurfaced ground

⚠ In line with the standard DIN EN 60601-2-52:2016, when choosing a mattress, it is important that there is a minimum distance of 22 cm between the top of the sleeping surface and the top of the side rails in its fully extended position. The mattress used must meet the applicable safety standards.

⚠ The constant presence of liquid in the area of the motor must be avoided (e. g. incontinence).

⚠ For safety reasons, the handle on the trapeze bar must be replaced completely every five years.

⚠ Servicing and repairs on electrical components must be carried out by specially trained staff and only original replacement parts from the manufacturer must be used.

⚠ The care bed is not suitable for extended operation beyond a working cycle of two minutes. If the mains adapter is overloaded or if it overheats, it will shut off automatically. Further operation is possible only after an approx. 30-minute cool-down phase. Observe the drive manufacturer's notes on the rating plate!

⚠ It is essential to avoid obstructing any part of the bed mechanism as this can lead to damage or complete disabling of the drive system due to overheating.

⚠ Likewise, the safe working load must not be exceeded.

⚠ If an immobile resident remains in the same position for a long period without the use of additional positioning aids, this can lead to pressure sores. The manufacturer of the care bed is not liable for this in any way.

⚠ Electrically operated care beds are active medical products and must be maintained according to Article 7 of the Medical Device Operator Ordinance (MedProd-BetrV). These maintenance measures must be carried out regularly (at least once per year). This must involve visual and functionality checks of functional and electrical safety in line with VDE0751.
☞ *p. 52Maintenance*

⚠ Furthermore, electrically operated care beds are electrical appliances and their safety is the responsibility of the employer. The supervisory function of this obligation is the responsibility of the Employers' Liability Insurance Association for Health Service and Welfare Work (BGW) and the Trade Supervisory Board (Gewerbeaufsichtsamt). The regulations of the employers' liability insurance associations apply, particularly those of the German statutory accident insurance body (DGUV), rule 3 of which stipulates regular inspections of movable electrical equipment at a recommended interval of six months, but at least once a year. These inspections may only be carried out by a certified electrician or person with electrical training using specialist measurement and inspection equipment. The inspections according to DGUV rule 3 can be conducted by specialist staff trained by the manufacturer as part of the inspections and maintenance service for medical products.

⚠ Electrically operated care beds are active medical products and must be listed in an inventory for each site in line with Article 13 of the German Medical Device Operator Ordinance (MedProd-BetrV). It is advisable to also document the correct implementation of the required checks and servicing in this inventory and to specify the date of the next inspection. The required protocols concerning checks already performed must be appended to the inventory.

⚠ Proper execution and traceable documentation of the technical checks, maintenance and servicing work prescribed by the manufacturer, as well as the technical safety checks, are required in order to preserve the warranty rights of the purchaser. If the operator of a medical product does not meet their obligations, this could lead to the risk of damage and accidents for which the manufacturer is explicitly not liable.

⚠ Maintenance work must be carried out and documented by trained staff.

⚠ The bed must be left in the lowest position if the resident is unattended to reduce the risk of injury caused by falling out of bed.

⚠ If the mains connection cable is damaged, the bed can no longer be used and must immediately be taken out of operation.

⚠ Improper use of the mains connection cable can result in hazards (e.g. electric shock). Examples of this are cable breaks due to kinking, shearing or other mechanical damage.

⚠ When using other ME devices in conjunction with the care bed, precautions must be taken to prevent damage to the device cable or other components of the ME device resulting from crushing between the movable parts of the medically used bed.

⚠ The care bed is not suitable for use in the vicinity of active facilities that use high-frequency surgical devices.

⚠ The care bed is not suitable for use in HF-shielded rooms used for magnetic resonance imaging in which high-intensity EM disturbance variables occur.

⚠ The use of this care bed directly next to or in conjunction with other electrical devices (e.g. stacked) must be avoided as this can lead to faulty operation. If using the bed in the manner described above is absolutely necessary, the devices involved should be subjected to a function test for a longer period of time, in order to rule out malfunction due to interference.

⚠ The use of other accessories, transducers and cables other than those specified or provided by Malsch GmbH can cause increased emissions of electromagnetic interference or reduce the electromagnetic interference resistance of the device and lead to faulty operation.

⚠ Portable HF communication devices (radio devices) – including their accessories, such as antenna cables and external antennas – must not be used closer than 30 cm to the parts and cables of care beds as designated by Malsch GmbH. Non-observance can impair the performance of the care bed.

⚠ The emissions of this device are below the thresholds defined by IEC / CISPR 11:2009, Class A and permit the use of it in industrial environments and hospitals. This device may not provide adequate protection against wireless services if used in residential areas (for which class B is normally required according to CISPR 11). The user may have to implement remedial measures such as relocating or repositioning the device.

⚠ Servicing and maintenance tasks may not be performed while the ME device is in use.

IMPULSE CARE BED TECHNICAL DATA

Model	Dimensions [cm]	Sleeping surface [cm]	Height adjustment [cm][1]	Weight	Maximum load	Anti-/ Trendelenburg	Upper leg adjustment	Back rest adjustment
IMPULSE care bed with undercarriage **Edition 100**	206 x 100	200 x 90	37 to 84	Approx. 120 kg	**Total 225 kg** 190 kg resident 20 kg mattress 15 kg accessories	17° / 14°	33°	71° / 12 cm mattress compensation
	206 x 110	200 x 100						
IMPULSE care bed with undercarriage **Editions 400 / 400 ZB**	206 x 100	200 x 90	25 to 82	Approx. 120 kg	**Total 225 kg** 190 kg resident 20 kg mattress 15 kg accessories	17° / 14°	33°	71° / 12 cm mattress compensation
	174.5 x 90	168.5 x 80						
	186 x 90	180 x 80						
	196 x 90	190 x 80						
	196 x 100	190 x 90						
	206 x 90	200 x 80						
	206 x 120	200 x 110						
	206 x 130	200 x 120						
	226 x 100	220 x 90						
IMPULSE care bed with undercarriage **Edition 400 LR**	206 x 100	200 x 90	26 to 82	Approx. 120 kg	**Total 225 kg** 190 kg resident 20 kg mattress 15 kg accessories	17° / 14°	33°	71° / / 12 cm mattress compensation
IMPULSE care bed with undercarriage **Edition 420**	206 x 100	200 x 90	27 to 80	Approx. 100 kg	**Total 200 kg** 165 kg resident 20 kg mattress 15 kg accessories	–	30°	70° / 12 cm mattress compensation
	206 x 90	200 x 80						
IMPULSE care bed with undercarriage **Edition 420 LR**	206 x 100	200 x 90	28 to 81	Approx. 84 kg	**Total 200 kg** 165 kg resident 20 kg mattress 15 kg accessories	–	30°	70° / 12 cm mattress compensation
	206 x 90	200 x 80						
IMPULSE care bed with undercarriage **Edition 500**	206 x 100	200 x 90	15 to 75	Approx. 136 kg	**Total 200 kg** 165 kg resident 20 kg mattress 15 kg accessories	17° / 14°	33°	71° / 12 cm mattress compensation
	206 x 110	200 x 100						
IMPULSE care bed with undercarriage **Edition XL**	206 x 110	200 x 100	33 to 83	Approx. 160 kg	**Total 300 kg** 250 kg resident 25 kg mattress 25 kg accessories	17° / 14°	33°	71° / 12 cm mattress compensation
	226 x 110	220 x 100						

[1] Measured from sleeping surface frame

IMPULSE CARE BED ELECTRICAL DRIVES

Model	Edition 100 Edition 400 Edition 400 ZB Edition 400 LR	Edition 420 Edition 420 LR	Edition XL	Edition 400 Edition 400 ZB Edition 400 LR	Edition 500
Hand controller version	HC-146	HC-147	HC-146	HB-400	HB-400
Electrical connection	100–240 V AC 50 / 60 Hz			100–240 V AC 50 / 60 Hz	
Output voltage:	35 V DC 2 A		35 V DC 2.5 A	–	–
Over-current off	7.5–11.5 A DC		8 A DC	–	–
Over-voltage off	45 V DC			–	–
Standby operation	Max. 0.5 W			Max. 0.8 W	
Protection	IPX 4				
Protection class	II				

Lifting system force

Lifting system force	2 x 3,000 N	1 x 8,000 N	2 x 6,000 N	2 x 6,000 N	2 x 8,000 N
Sleeping surface adjustment force	2 x 3,000 N	2 x 4,000 N	3 x 3,000 N	1 x 3,000 N	Head 6,000 N Foot 3,000 N
Motor running time	2 min. / off 18 min.				

Data on operation, transport and storage

Operating temperature range	+10 °C to +40 °C	+5 °C to +40 °C
Transport / storage temperature range	+5 °C to +50 °C	–10 °C to +50 °C
Relative humidity	30 % to 75 %	20 % to 80 %
Atmospheric pressure range	700 hPa to 1,060 hPa	
Operating volume	54 dB (A)	
Operating altitude	Max. 3,000 m	

AURA CARE BED TECHNICAL DATA

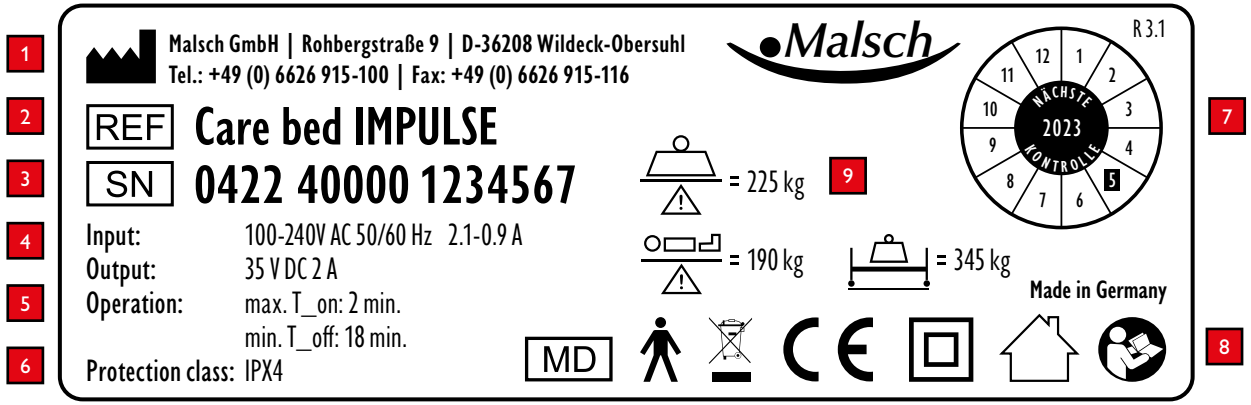
Model	Dimensions [cm]	Sleeping surface [cm]	Height adjustment [cm] [1]	Weight	Maximum load	Anti-/ Trendelenburg	Upper leg adjustment	Back rest adjustment
AURA AURA LR	206 x 92.5	200 x 80	Approx. 25 (26 [2]) to 82	Approx. 130 kg	Total 225 kg 190 kg resident 20 kg mattress 15 kg accessories	17° / 14°	33°	71° / 12 cm mattress compensation
	206 x 102.5	200 x 90		Approx. 140 kg				
	206 x 112.5	200 x 100		Approx. 150 kg				
	206 x 122.5	200 x 110		Approx. 160 kg				
	206 x 132.5	200 x 120		Approx. 17 kg				

[1] Measured from sleeping surface frame
[2] AURA LR

AURA CARE BED ELECTRICAL DRIVES

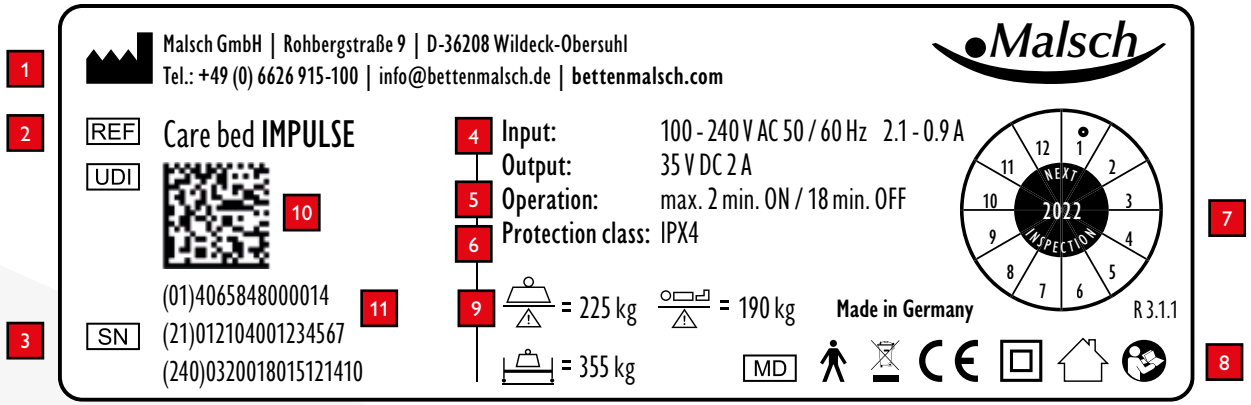
Model	AURA AURA LR	AURA AURA LR
Hand controller version	HC-146	HB-400
Electrical connection	100–240 V AC 50 / 60 Hz	
Output voltage:	35 V DC 2 / 2.5 A	–
Over-current off	7.5–11.5 A DC	–
Over-voltage off	45 V DC	–
Standby operation	Max. 0.5 W	Max. 0.8 W
Protection	IPX 4	
Protection class	II	
Lifting system force		
Lifting system force	2 x 6,000 N	
Sleeping surface adjustment force	2 x 3,000 N	
Motor running time	2 min. / off 18 min.	
Data on operation, transport and storage		
Operating temperature range	+10 °C to +40 °C	+5 °C to +40 °C
Transport / storage temperature range	+5 °C to +50 °C	–10 °C to +50 °C
Relative humidity	30 % to 75 %	20 % to 80 %
Atmospheric pressure range	700 hPa to 1,060 hPa	
Operating volume	54 dB (A)	
Operating altitude	Max. 3,000 m	

RATING PLATE



Example of a rating plate without UDI of the IMPULSE care bed

RATING PLATE WITH UDI



Example of a rating plate with UDI of the IMPULSE care bed

The rating plate is located on the underside of the sleeping surface, at the head of the bed on the right. To inspect the rating plate, raise the head section to the upper position.

Notes:

1. Manufacturer's address
2. Model ID
3. Serial number
4. Electrical voltage, frequency, power consumption
5. Operating time of the motorised adjustment system. Please take note of this information to prevent overheating. For example, the bed must not be operated continuously for more than 2 minutes, and after 2 minutes of continuous operation, it must be switched off for at least 18 minutes.
6. Protection of electrical equipment against splash water "Only use in dry areas", protection rating class II (double insulation, protective insulation)
7. Indicates the next technical check after delivery in line with VDE0751-1
8. Explanation of the safety symbols used on the rating plate:

MD	Marking as a medical device
	Application part type B
	Directive 2002/96/EC relating to old electrical and electronic equipment
CE	Conformity marking in line with the Medical Device Directive
	Protection class IPX4 and protection rating class II
	"Only use in dry areas"
	"Follow the instruction manual"

9. Explanation of the weight icons used on the rating plate:

	Safe working load
	Maximum permissible weight of the resident
	Maximum total weight of the medical product incl. resident (bed weight plus maximum permissible resident weight)

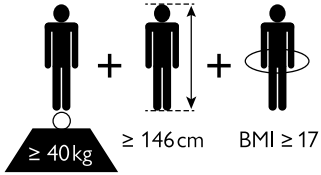
10. 2D barcode (GS1 data matrix) DI + PI = UDI
11. (DI) Device identifier
    (01) UDI-DI/GTIN

    (PI) Production identifier
    (21) Serial number
    (240) Additional product information

Labels

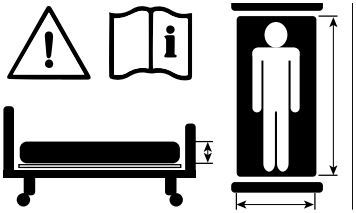
A separate sticker to the right of the rating plate refers to the labels described below:

Symbol: Label indicating beds for adults used for medical purposes in line with IEC 60601-2-52:2009 / AMD:2015



The care bed is approved for adult residents with a body weight of at least 40 kg and a height of at least 146 cm. In accordance with the standard IEC 60601-2-52:2009 / AMD1:2015, the care bed must not be used by residents whose body weight and height are below these limits or who have a BMI under 17, as the risk of injury is increased for this group.

Symbol: Label indicating replaceable mattresses in line with IEC 60601-2-52:2009 / AMD:2015 – please observe the information and instruction manual for the mattresses.



The following table contains information concerning mattress sizes depending on the sleeping surface dimensions:

Mattress size [cm]	Sleeping surface dimensions [cm]	Volumetric weight [kg / m³]
78 × 200 × 12 / 14	80 × 200*	35–50
88 × 200 × 12 / 14	90 × 200	35–50
98 × 200 × 12 / 14	100 × 200*	35–50
108 × 200 × 12 / 14	110 × 200*	35–50
118 × 200 × 12 / 14	120 × 200*	35–50

* Optional special sizes

HC-146 HAND CONTROLLER SYMBOLS

Care bed **IMPULSE Editions 100/400/400LR/400ZB**
Care bed **IMPULSE Edition XL** (version with Trendelenburg position)

S1
Head section adjustment up

S2
Head section adjustment down

S3
Foot section adjustment up

S4
Foot section adjustment down

S5
Auto contour up

S6
Auto contour down

S7
Lift adjustment up

S8
Lift adjustment down/ transfer pos.[1]

S9
Anti-Trendelenburg

S10
Trendelenburg

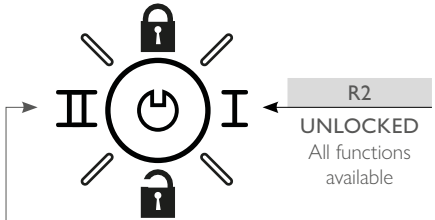
S11
Comfort sitting position

S12
Low position[1]/ castors[2]/

[1] Not with IMPULSE Edition 100
[2] Only with IMPULSE Edition 100

Locking function

Positioned on the back of the hand controller for restricting operation by resident.



R1
LOCKED
No functions operational

R2
UNLOCKED
All functions available

R3
RESIDENT SETTING
All functions available except S10 /S12

R4
UNLOCKED
All functions available

HC-146 HAND CONTROLLER SYMBOLS

Care bed **IMPULSE Edition XL** (version without Trendelenburg position,
Care bed **AURA / AURA LR**

S1
Head section adjustment up

S2
Head section adjustment down

S3
Foot section adjustment up

S4
Foot section adjustment down

S5
Auto contour up

S6
Auto contour down

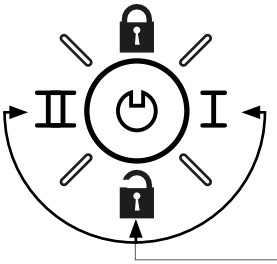
S7
Lift adjustment up

S8
Lift adjustment down

S10
Comfort sitting position

Locking function

Positioned on the back of the hand controller for restricting operation by resident.

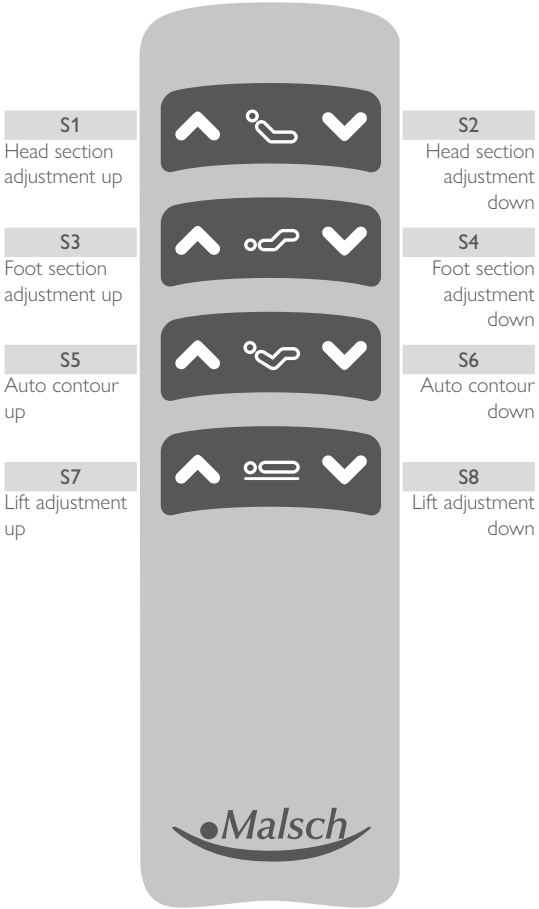


R1
LOCKED
No functions operational

R2–R4
UNLOCKED
All functions available

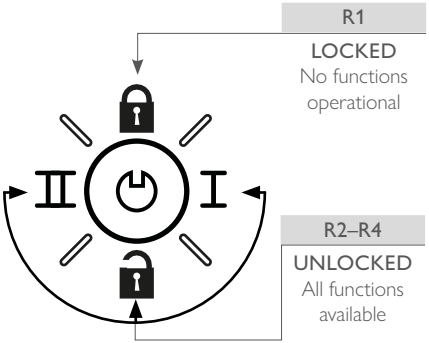
HC-147 HAND CONTROLLER SYMBOLS

Care bed **IMPULSE Editions 420/420LR**



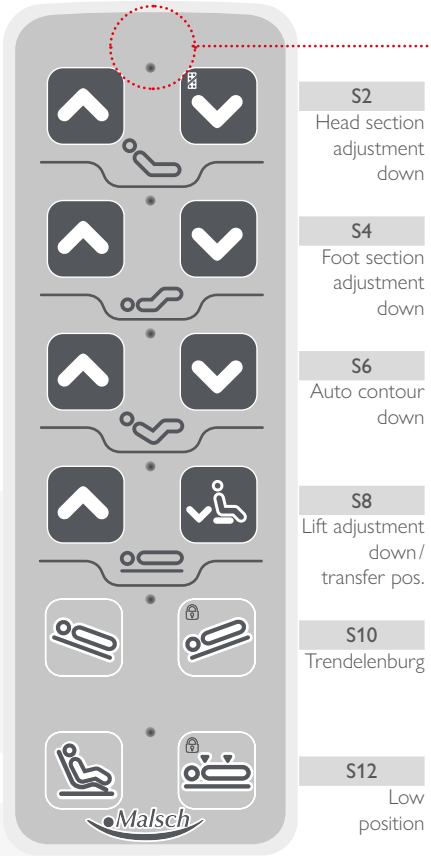
Locking function

Positioned on the back of the hand controller for restricting operation by resident.



HB-400 HAND CONTROLLER SYMBOLS

Care bed **IMPULSE Editions 400/400LR/400ZB/500**
Care bed **AURA/AURA LR**



Locking function

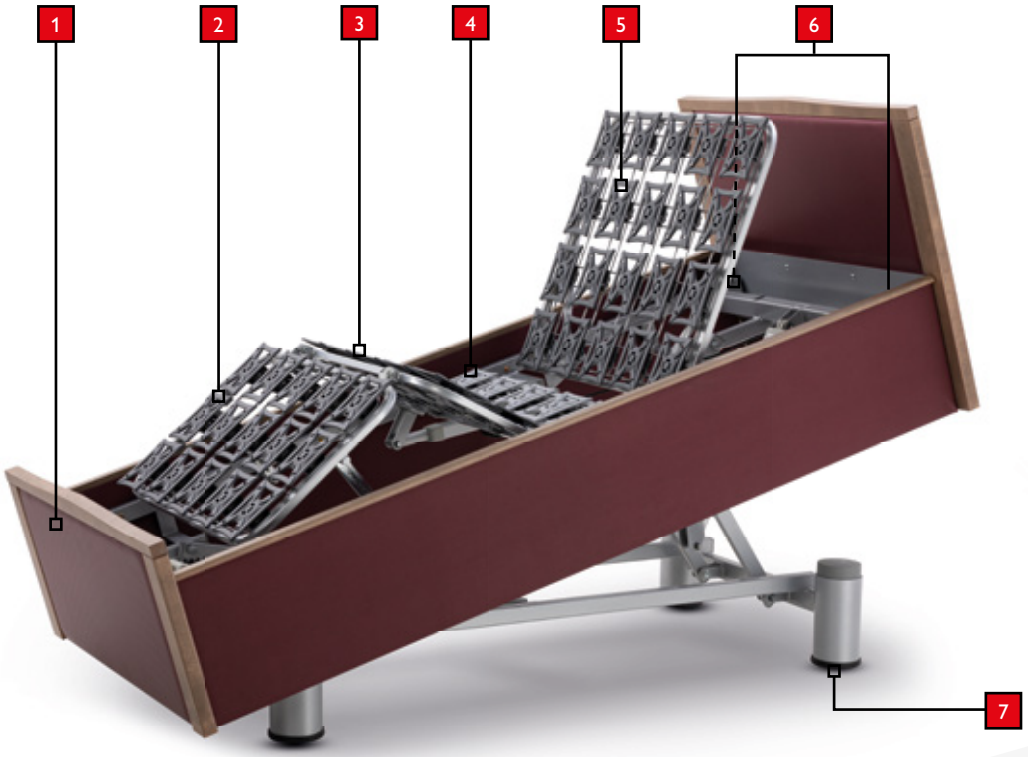
The supplied magnetic chip must be placed in the area marked in red to activate the locking function. At the same time, the respective lock button (see table for symbols for secondary assignment) must be activated. A red LED in the centre of the row of buttons acknowledges that the function lock has been activated.

Button	Locking
S2	All functions
S10	Trendelenburg position
S12	Low position

The locked functions are released in the same way. By placing the magnetic chip and simultaneously pressing the button with the lock symbol, the function is released again and the respective LED goes out.

FUNCTIONS

IMPULSE care bed with undercarriage **Edition 100**

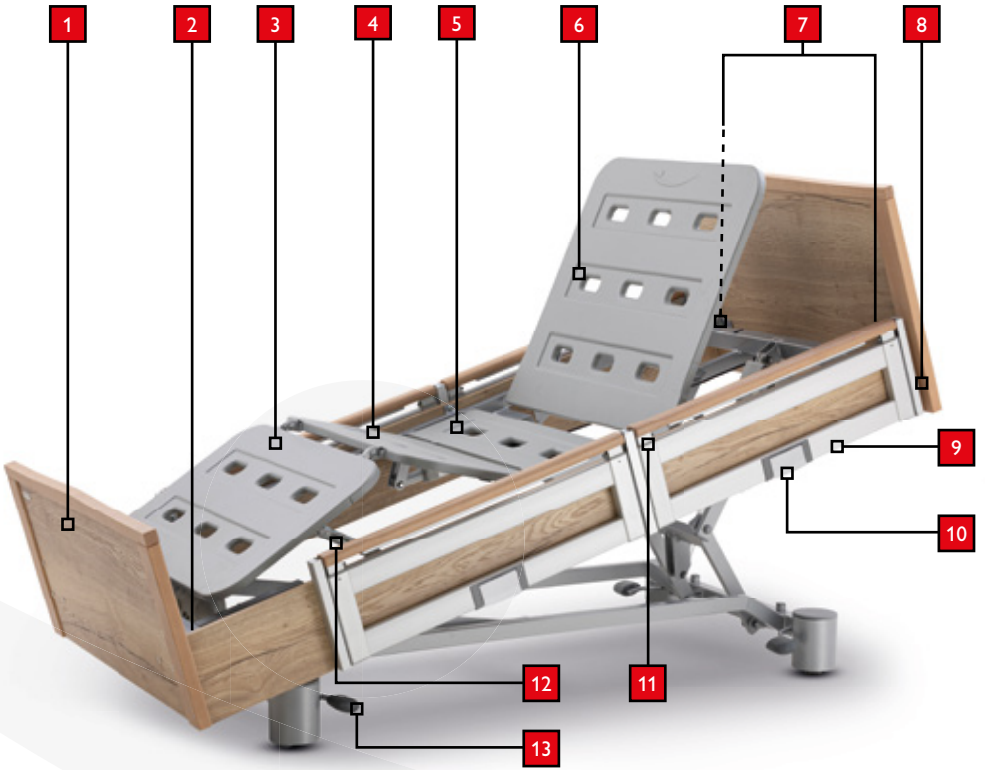


1. Foot board
2. Adjustable lower leg support
3. Adjustable upper leg support
4. Static seat panel
5. Adjustable back rest
6. Trapeze bar mounts on both sides at head end of sleeping surface
7. Stand with electronic castor positioning

FUNCTIONS

IMPULSE care bed with undercarriage **Edition 400**

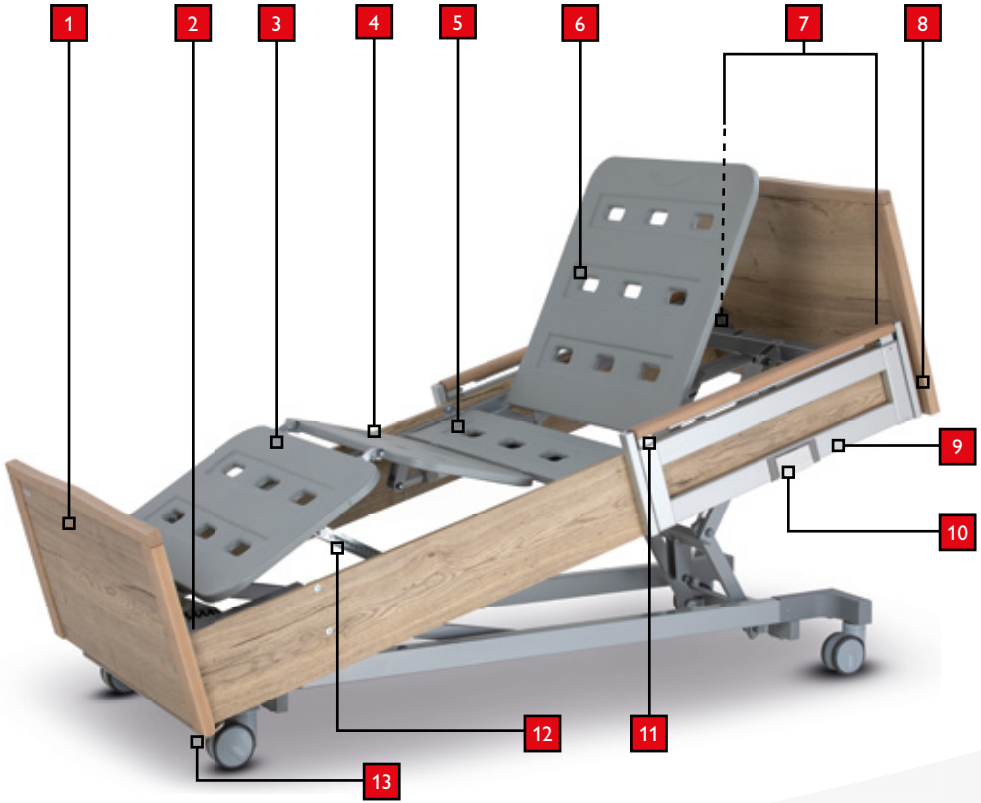
Version with vertically retractable side rails with one-handed operation, split on both sides (EVGS 7.5.31)



1. Foot board
2. Integrated two-stage bed extension (+10 / +20 cm)
3. Adjustable lower leg support
4. Adjustable upper leg support
5. Static seat panel
6. Adjustable back rest
7. Mounting bracket for IV drip holder accessory (4 x surrounding the bed)
8. Mechanical CPR emergency lowering of the back rest (optional)
9. Telescopic side rails (VGS)
10. Unlocking (one-handed operation) side rails
11. Telescopic side rail movement
12. Lower leg support adjustable notched bracket
13. Foot pedal for fixing each axle (▲ ▼) of covered 50 mm castors

IMPULSE care bed with undercarriage **Edition 400 LR**

Version with vertically retractable side rails with one-hand operation, split on both sides (EVGS 7.5.31)

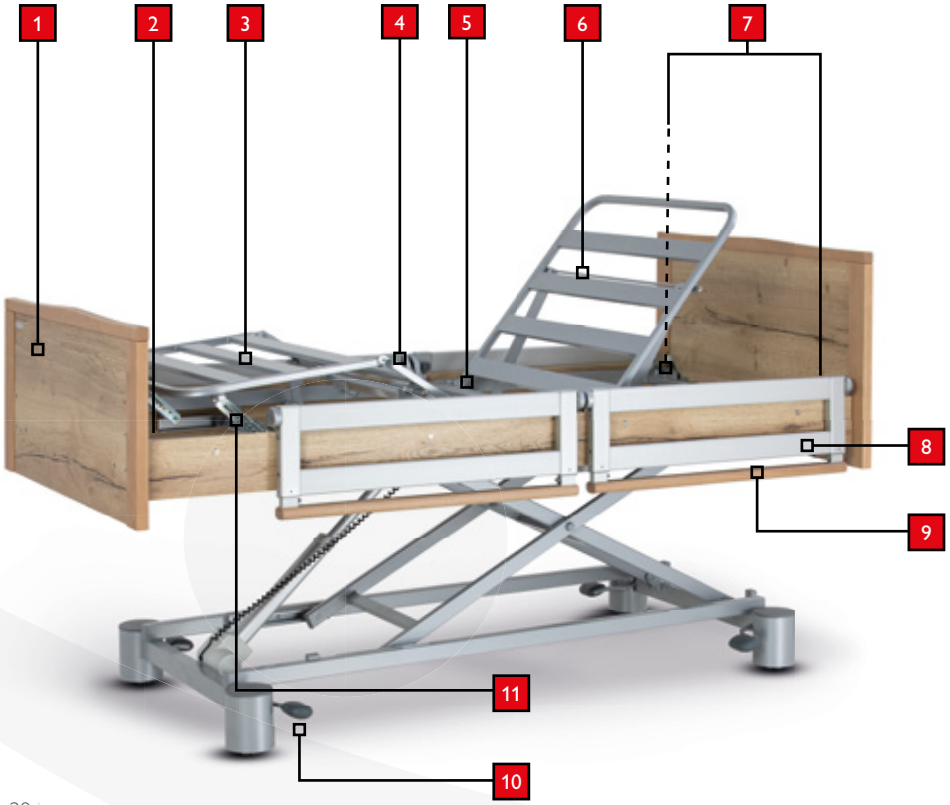


1. Foot board
2. Integrated two-stage bed extension (+10 / +20 cm)
3. Adjustable lower leg support
4. Adjustable upper leg support
5. Static seat panel
6. Adjustable back rest
7. IV drip holder mounting bracket and accessories (4 x surrounding the bed)
8. Mechanical CPR emergency lowering of the back rest (optional)
9. Telescopic side rails (VGS)
10. Unlocking (one-handed operation) side rails
11. Telescopic side rail movement
12. Lower leg support adjustable notched bracket
13. Foot pedal with central brake (▲) and fixed direction (▼) of the double castors

FUNCTIONS

IMPULSE care bed with undercarriage **Edition 420**

Version with swivelling side rails, split on both sides (GS V3)



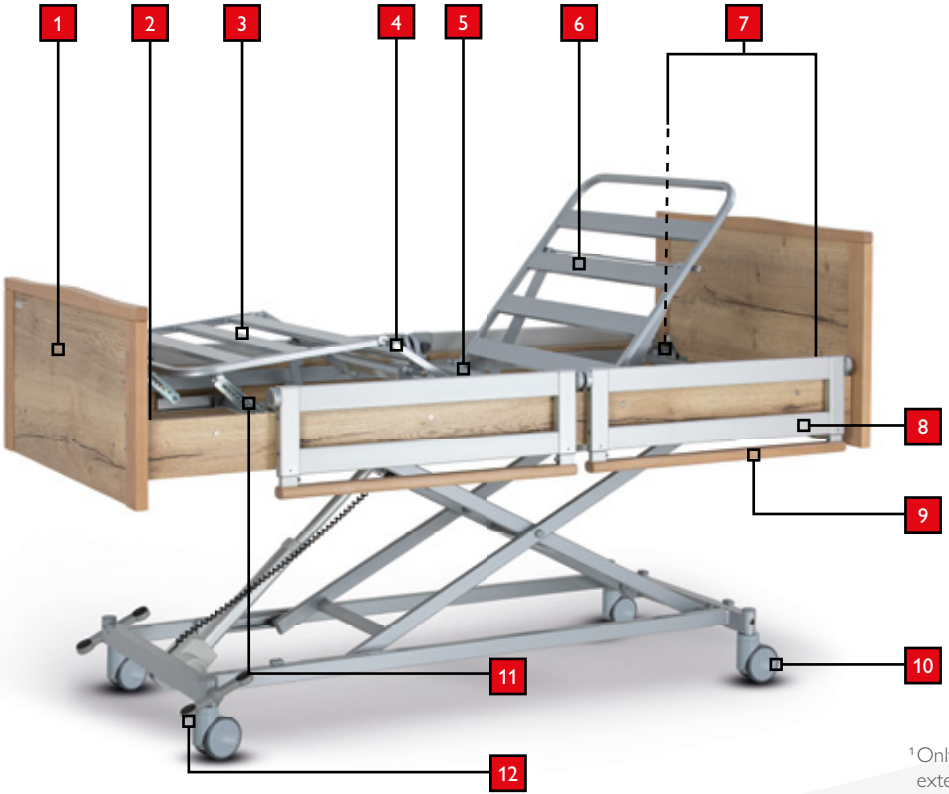
1. Foot board
2. Integrated, two-stage bed extension (+10 cm / +20 cm) (optional)
3. Adjustable lower leg support
4. Adjustable upper leg support
5. Static seat panel
6. Adjustable back rest
7. IV drip holder mounting bracket and accessories (4 x surrounding the bed)
8. Swivelling side rails (GS V2[1])
9. Telescopic side rail movement
10. Lower leg support adjustable notched bracket
11. Foot pedal for fixing each axle (▲ ▼) of covered 50 mm castors

[1] Only on versions without integrated bed extension, otherwise V3

FUNCTIONS

IMPULSE care bed with undercarriage **Edition 420 LR**

Version with swivelling side rails, split on both sides (GS V3)

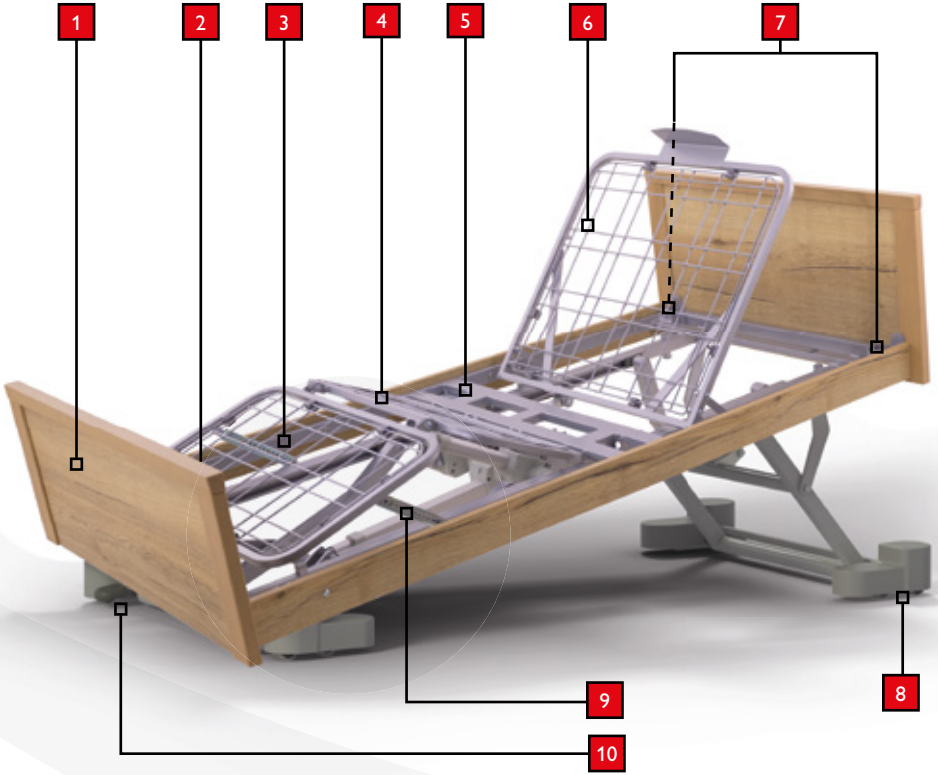


1. Foot board
2. Integrated, two-stage bed extension (+10 cm / +20 cm) (optional)
3. Adjustable lower leg support
4. Adjustable upper leg support
5. Static seat panel
6. Adjustable back rest
7. IV drip holder mounting bracket and accessories (4 x surrounding the bed)
8. Swivelling side rails (GS V2[1])
9. Telescopic side rail movement
10. 125 mm double castors
11. Lower leg support adjustable notched bracket
12. Foot pedal with central brake (▼), fixed direction (▲) and freewheeling (—)

[1] Only on versions without integrated bed extension, otherwise V3

FUNCTIONS

IMPULSE care bed with undercarriage **Edition 500**

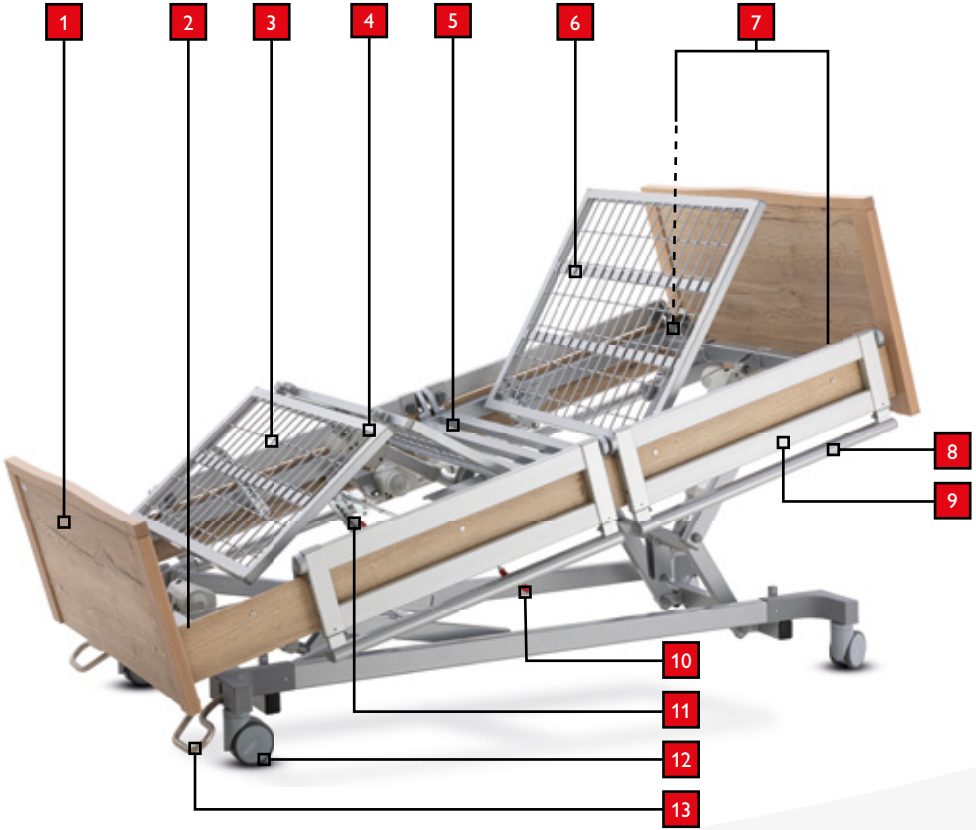


1. Foot board
2. Integrated two-stage bed extension (+10 / +20 cm)
3. Adjustable lower leg support
4. Adjustable upper leg support
5. Static seat panel
6. Adjustable back rest
7. IV drip holder mounting bracket and accessories (4 x surrounding the bed)
8. 50 mm double castors
9. Lower leg support adjustable notched bracket
10. Foot pedal for fixing each axle (▲ ▼) of covered 60 mm double castors

FUNCTIONS

IMPULSE care bed with undercarriage **Edition XL**

Version with swivelling side rails, split on both sides (GS V3)



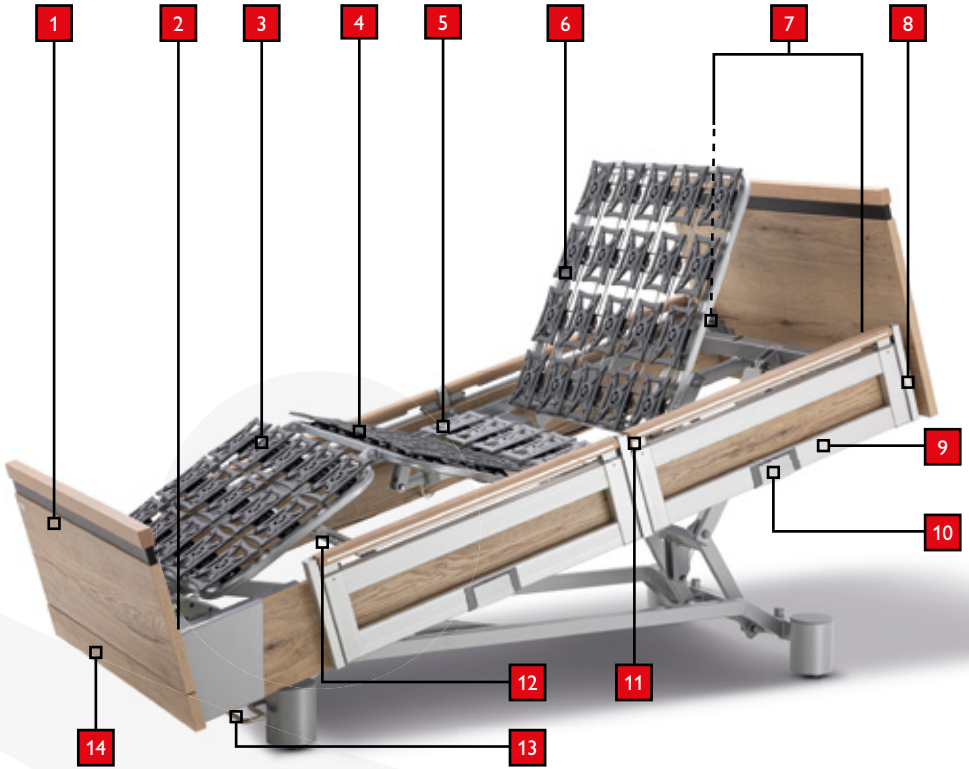
1. Foot board
2. Integrated two-stage bed extension (+10 / +20 cm)
3. Adjustable lower leg support
4. Adjustable upper leg support
5. Static seat panel
6. Adjustable back rest
7. IV drip holder mounting bracket and accessories (4 × surrounding the bed)
8. Swivelling side rails (GS V3[1])
9. Telescopic side rail movement
10. CPR emergency lowering (optional, design with GS)
11. Lower leg support adjustable notched bracket
12. 125 mm double castors
13. Foot pedal with central brake (▼), fixed direction (▲) and freewheeling (—)

1 In conjunction with integrated bed extension

FUNCTIONS

AURA care bed

Version with vertically split side rails with one-handed operation, split on both sides (EVGS 7.5.31)

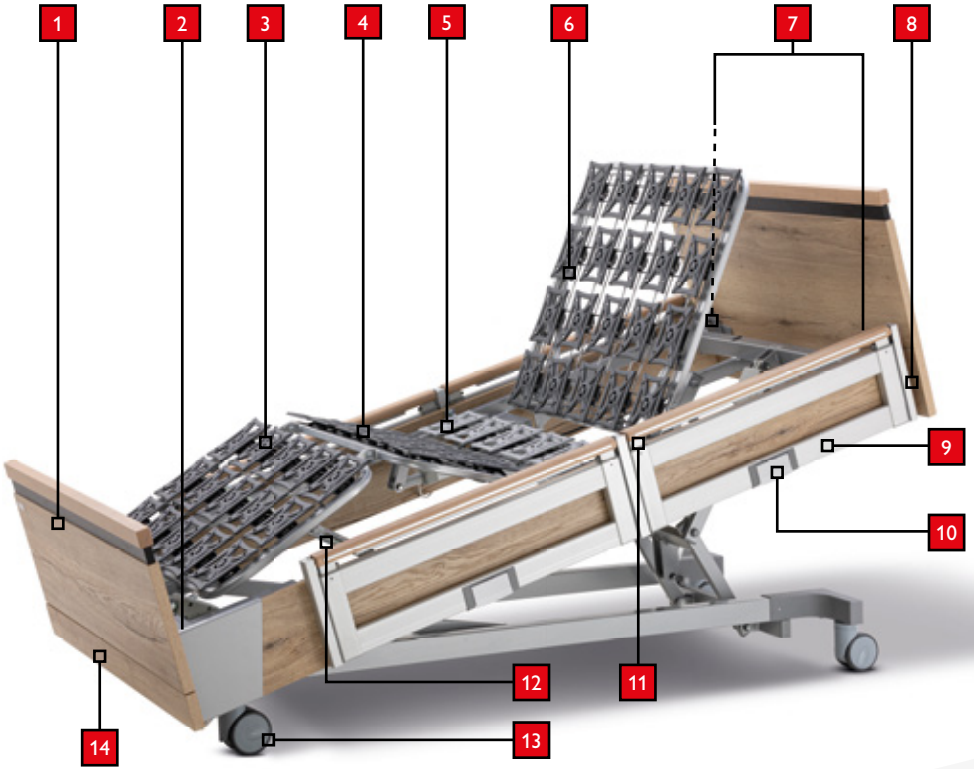


1. Foot board
2. Integrated two-stage bed extension (+10 / +20 cm)
3. Adjustable lower leg support
4. Adjustable upper leg support
5. Static seat panel
6. Adjustable back rest
7. IV drip holder mounting bracket accessories (4 x surrounding the bed)
8. Mechanical CPR emergency lowering of the back rest (optional)
9. Telescopic side rails (VGS)
10. Unlocking (one-handed operation) side rails
11. Telescopic side rail movement
12. Lower leg support adjustable notched bracket
13. Foot pedal for fixing each axle (▲ ▼) of covered 50 mm castors
14. Pull-out bed linen holder

FUNCTIONS

AURA LR care bed

Version with vertically split side rails with one-handed operation, split on both sides (EVGS 7.5.31)



1. Foot board
2. Integrated two-stage bed extension (+10 / +20 cm)
3. Adjustable lower leg support
4. Adjustable upper leg support
5. Static seat panel
6. Adjustable back rest
7. IV drip holder mounting bracket accessories (4 x surrounding the bed)
8. Mechanical CPR emergency lowering of the back rest (optional)
9. Telescopic side rails (VGS)
10. Unlocking (one-handed operation) side rails
11. Telescopic side rail movement
12. Lower leg support adjustable notched bracket
13. Foot pedal with central brake (▼) and fixed direction (▲) of the double castors
14. Pull-out bed linen holder

DESCRIPTION OF FUNCTION

Depending on the design and type of care bed, the bed can be adjusted into various positions by adjusting the back rest, the upper and lower leg support and the height of the bed:

Back rest

Use the corresponding buttons on the hand controller to adjust the back rest.

(Back rest operating buttons)

The back rest has a length compensation of 120 mm [1] in its movement sequence to the headboard of the bed (Edition 420 / 420 LR undercarriages available optionally with 100 mm mattress compensation of the back rest).

This function (mattress compensation) allows the resident to sit in a comfortable position while avoiding compression of the buttocks area and without compressing or restricting the stomach or upper body.

Caution! The back rest is designed for the mechanical load when a reclining person with a maximum resident weight according to the specification in the rating plate is being raised. Sitting on the back rest is not the intended use and may result in damage and injury.

Mechanical back rest release / CPR

(optional)

Version with VGS
Handle at head end on a level with the side

When operating the mechanical release, hold the back rest firmly in the current position and, if possible, relieve some of the load. Pull the release to disengage the back rest and lower it manually into the end position.

Version for GS / version without side rails
Handle in the middle of the bed underneath the side panel.

When operating the mechanical release, hold the back rest firmly in the current position and, if possible, relieve some of the load. Pull the release to disengage the back rest and lower it manually into the end position.

Press the S1 button on the hand controller again to reactivate the electrical back rest adjustment.

[1] Undercarriages of the 400 / 400 LR / 100 / XL editions

Caution! Before pressing the lever, ensure that there are no objects or parts of the body below the back rest. Manually relieve the weight on the back rest during adjustment to prevent it falling in an uncontrolled manner.

Adjustable upper / lower leg support

Use the corresponding buttons on the hand controller to adjust the upper leg support.

(Upper leg support operating buttons)

Care staff can move the lower leg support into the extended leg elevation position using the adjustable notched bracket.

Auto contour

Use the corresponding buttons on the hand controller to adjust the auto contour.

(Auto contour operating buttons)

Using the button function adjusts the back rest and upper leg support equally.

This function must only be used with mobile residents without any physical problems.

Caution! Please consider resident safety when adjusting the auto contour! Ensure that no body parts or foreign objects are located in the area of the lifting mechanism.

Height adjustment

Use the corresponding buttons on the hand controller to adjust the height.

(Height adjustment operating buttons)

Caution! Please consider resident safety when adjusting the height. Ensure that no foreign objects are located in the area of the lifting mechanism.

Transfer position

(Only for care bed IMPULSE with undercarriage Edition 400/400 LR/400 ZB and Edition 500 as well as AURA/AURA LR care beds)

The transfer position facilitates optimum mounting and dismounting with the seat area of the bed at a sitting height. Hold the operating button down until the position is reached.

(Transfer position operating button)

Low position/fall prevention

(Only for care bed IMPULSE with undercarriage Edition 400/400 LR/400 ZB and Edition 500 as well as AURA/AURA LR care beds)

Use the corresponding buttons on the hand controller to adjust the bed to the low position.

(Low position operating button)

Press the button to lower the bed from the transfer position to the low position.

The 420/420 LR Edition undercarriages are adjusted to the low position by means of the S8 button on the hand controller without intermediate stop.

Caution! Before pressing the button, ensure that the lowered split side rails are pushed in (☞ p. 44, *fig. 1*) and there are no body parts or objects under the bed!

Trendelenburg position

(Not for IMPULSE care bed with undercarriage Edition XL/Edition 420 and Edition 420 LR)

Use the corresponding buttons on the hand controller to adjust the bed to the Trendelenburg position.

(Trendelenburg position operating button)

The Trendelenburg position is blocked for safety reasons when the bed is in the resident setting.

Caution! Observe the instructions for the locking function ☞ *p. 38*

Caution! The Trendelenburg function cannot be implemented if a power supply failure occurs in combination with an empty battery or if the lifting motors fail. In this case, the resident must be relocated to another bed as required.

Caution! The Trendelenburg position must only be used if prescribed by a doctor. Improper use can result in lasting injury to residents.

Anti-Trendelenburg position

(Not for IMPULSE care bed with undercarriage Edition XL/ Edition 420 and Edition 420 LR)

Use the appropriate button on the hand controller to adjust the bed to the anti-Trendelenburg position (feet lowered).

(Anti-Trendelenburg operating button)

The incline of the sleeping surface is listed in the table on ☞ *p. 14 Technical data.*

Caution! Please consider resident safety when adjusting the bed inclination. Ensure that no body parts or foreign objects are located in the area of the lifting mechanism.

Comfort sitting position

(Not with IMPULSE care bed with undercarriage Edition 420/420 LR)

Use the corresponding buttons on the hand controller to adjust the comfort sitting position.

(Comfort sitting position operating buttons)

Pressing the button moves the bed quickly into a comfortable sitting position by simultaneously adjusting the sleeping surface and the lifting mechanism.

This function must only be used with mobile residents without any physical problems.

Caution! Please consider resident safety when adjusting the bed to the comfort sitting position. Ensure that no body parts or foreign objects are located in the area of the lifting mechanism.

Hand controller locking function

The electrical unit combines state-of-the-art technology and single-fault safety.

The locking function is a further safety precaution.

Operating hand controller locking function HC-146 / HC-147:

The locking function is located on the back of the hand controller and can be operated by staff with a key switch. The hand controller functions can be restricted by turning the key switch to the different switch positions. Symbols ☞ *pp. 21-20.*

The Trendelenburg position is blocked for safety reasons when the bed is in the resident setting. Care staff can release the block using the key switch (position R2 – FREE). ☞ *pp. 21 Hand controller symbols*

After this, the bed can be moved into the Trendelenburg position using the S10 button on the hand controller. The incline of the sleeping surface is listed in the table on ☞ *p. 14 Technical data*.

Operating the hand controller locking function HC-400

The supplied magnetic chip must be placed in the area marked in red of the hand controller to activate the locking function. At the same time, the respective lock button (see table ☞ *pp. 24* for secondary assignment to symbols) must be activated. A red LED in the centre of the row of buttons acknowledges that the function lock has been activated.

The locked functions are released in the same way. By placing the magnetic chip and simultaneously pressing the button with the lock symbol, the function is released again and the respective LED goes out. (☞ *pp. 24*)

The locking function of the Trendelenburg position is also activated by means of the supplied magnetic chip (☞ *pp. 24, HB-400 hand controller locking function).* The locked function is released in the same way.

Braking and moving

IMPULSE care bed with undercarriage Edition 100

The sleeping surface is in the lowest position. Enable the castors by pressing the S8 button on the hand controller and pressing the castor button at the same time.

(Enable castors operating buttons)

Now the IMPULSE care bed with undercarriage Edition 100 is ready to be moved. Press the S7 button on the hand controller (height adjustment up) to retract the castors and position the bed on its feet.

(Retract castors / brake operating buttons)

On the IMPULSE care bed with undercarriage Edition 100 version (only mobile in low position), the S8 button on the hand controller has a double function.

Caution! Transport mode must only be used whilst the bed is being moved. After moving the bed, disable the castors by moving the sleeping surface back to a raised position.

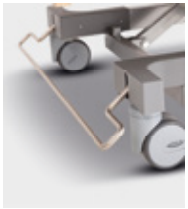
IMPULSE care bed with undercarriage Edition 400/420 and 500

The IMPULSE care bed with undercarriage of the 400/420 and 500 editions (mobile at any positioning height) has one central castor brake for each axle, which is operated mechanically using a foot pedal accessible on both sides.

The IMPULSE care bed with undercarriage of the 400/420 and 500 editions offers two different adjustment options:

1. Castors braked (foot pedal down)
2. Castors enabled for 360° movement (foot pedal up)

IMPULSE care bed with undercarriage Edition 400 LR
IMPULSE care bed with undercarriage Edition XL



Edition 400 LR and Edition XL of the IMPULSE care bed with undercarriage has one central castor brake, which is operated mechanically using a central foot pedal. The foot pedal is located in the central foot area of the undercarriage.

The 400 LR edition or the XL edition of the IMPULSE care bed with undercarriage has three different adjustment options:

1. Castors centrally braked (foot pedal down)
2. Four castors enabled for 360° movement (foot pedal in the middle)
3. One castor set to a fixed direction (foot pedal up)

IMPULSE care bed with undercarriage Edition 420 LR

The 420 LR edition of the IMPULSE care bed with undercarriage (mobile at any positioning height) has one central castor brake, which is operated mechanically using a central foot pedal. The foot pedal is located on both sides near the foot end axle.

The 420 LR edition of the IMPULSE care bed with undercarriage has three different adjustment options:

1. Castors centrally braked (foot pedal down)
2. Four castors enabled for 360° movement (horizontal foot pedal)
3. One castor set to a fixed direction (foot pedal up)

Caution! The IMPULSE Edition 400/400 LR and IMPULSE Edition 420/420 LR and 500, as well as IMPULSE Edition XL care beds with undercarriage can be moved with the sleeping surface at any height. It should only be moved with the reclining surface raised in exceptional cases and under the supervision of care staff. Once the bed has been moved to its final position, check that the castor brakes have been applied to ensure that the bed is in braked mode. The resident's safety is the top priority!

AURA care bed

The AURA care bed (mobile at any positioning height) has one central castor brake that is operated mechanically using a brake stirrup at the foot end of the bed. The brake stirrup is as wide as the entire undercarriage making it accessible from both sides.

The AURA care bed has two different adjustment options:

1. Castors centrally braked (foot pedal down)
2. Four castors enabled for 360° movement (foot pedal up)

Caution! The AURA care bed can be moved with the sleeping surface at any height setting. It should only be moved with the reclining surface raised in exceptional cases and under the supervision of care staff. Once the bed has been moved to its final position, check that the castor brakes have been applied to ensure that the bed is in braked mode. The resident's safety is the top priority!

AURA LR

The AURA LR version with optional castor sizes of 100 mm or 125 mm (mobile in any positioning height) has one central castor brake, which is operated mechanically with a central foot pedal. The foot pedal is located in the central foot area of the undercarriage.

The AURA LR care bed has three different adjustment options:

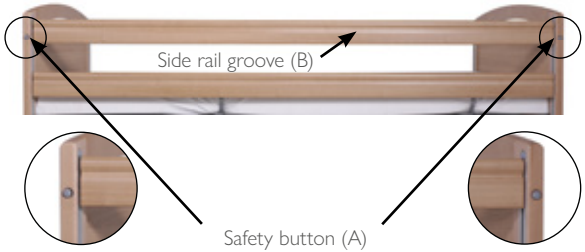
1. Castors centrally braked (foot pedal down)
2. Four castors enabled for 360° movement (foot pedal in the middle)
3. One castor set to a fixed direction (foot pedal up)

Caution! The AURA LR care bed can be moved with the sleeping surface at any height setting. It should only be moved with the reclining surface raised in exceptional cases and under the supervision of care staff. Once the bed has been moved to its final position, check that the castor brakes have been applied to ensure that the bed is in braked mode. The resident's safety is the top priority!

Adjust DS side rails

Full-length side rails

In the down position, the side rails are located on top of one another next to the reclining surface frame.



1. **Raising function:**
   Lift the upper side rail by the side rail groove (B) until you hear both safety buttons (A) lock into place.

Caution! Check that the side rail is locked in place by rattling it several times.

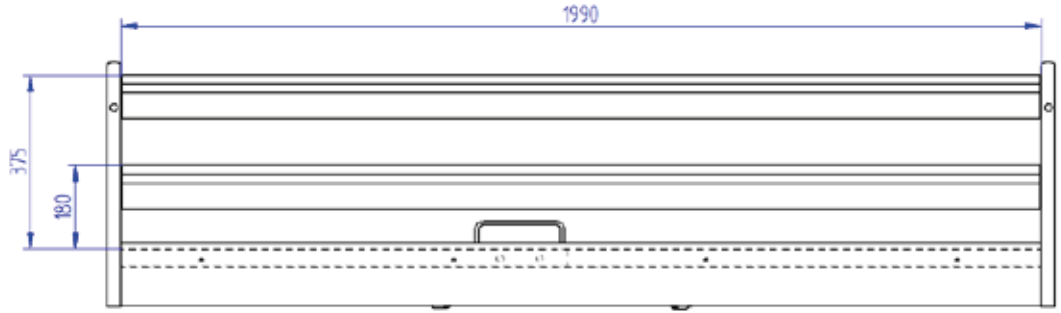
2. **Lowering function:**
   Slightly lift the upper side rail by the side rail groove (B), while at the same time pushing in the safety button (A). Slowly lower the side rail to the lowest position. Repeat the process at the other end of the bed.

Caution! When lowering and raising the side rails, please be extremely careful not to trap fingers, hands or any other parts of the body between the side rails and the sleeping surface frame.

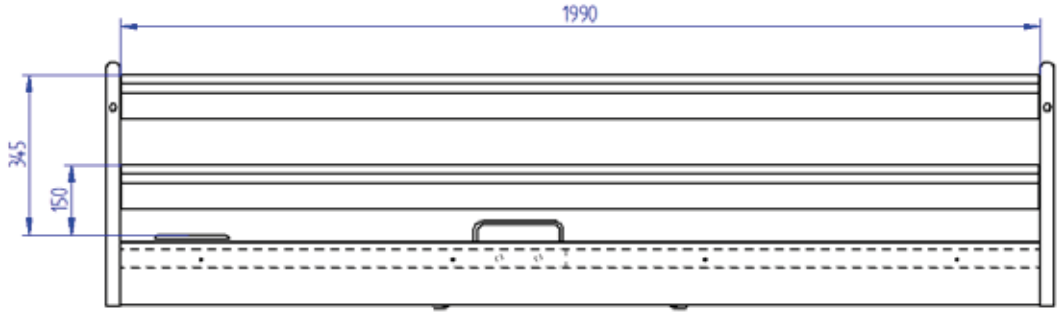
Caution! For disorientated or undernourished residents, we strongly recommend using side rail padding to prevent limbs from becoming trapped between the side rail gaps, which could lead to injury.

DS side rail dimensions

When using the ABS/metal lattice sleeping surface



When using the comfort sleeping surface



Adjust GS side rails

Split side rails

1. In standby position, the side rails are located next to the sleeping surface. In this position, they prevent the mattress from slipping. (Fig. 1)
2. The side rails are raised by tilting them upwards. In the middle position, they prevent the resident falling out of bed. When raised at the head end, they also provide standing and mobility assistance for the resident. (Fig. 2)
3. The upright side rail is released by means of two spring catches in the side rail uprights below the height adjustment handrail and positioned at its maximum height. Perform telescopic adjustments using both hands simultaneously when moving the rail upwards or downwards to prevent jamming. (Fig. 3) **Do not force the movement!**
4. To lower the telescoping side rail height extension, proceed the same way as to raise it.
5. To swivel the side rails back to the standby position, press the indicated latches on the lower side rail bar inwards simultaneously and initiate the tilting motion. (Fig. 4)

Caution! When raising the side rails and side rail height extensions, ensure and check that the latches engage securely. Always use both hands to move this element!

Caution! Only activate the low position on the IMPULSE care bed with undercarriage 400/400 LR and 420/420 LR editions with retracted side rails! (Fig. 1)

Fig. 1

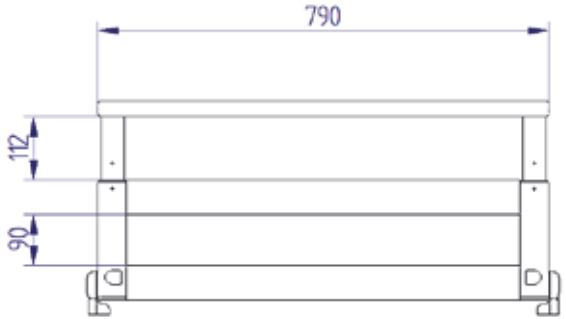
Fig. 2

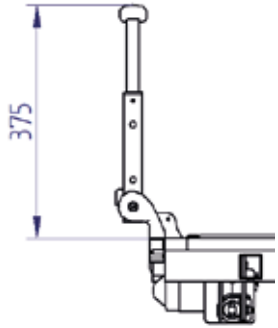
Fig. 3

Fig. 4

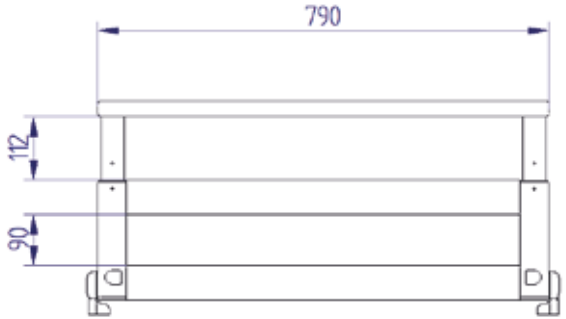
GS side rail dimensions

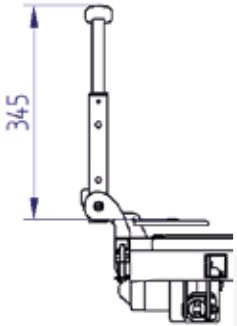
When using the ABS/metal lattice sleeping surface





When using the comfort sleeping surface





Adjust VGS side rails

Vertically retractable split side rails

In standby position, the side rails are located next to the sleeping surface. In this position, they prevent the mattress from slipping.

1. To raise the side rails, pull them upwards with both hands until they engage with an audible click. In the middle position, they prevent the resident falling out of bed. When raised at the head end, they also provide standing and mobility assistance for the resident. (Fig. A, 1.)

2. The side rail extension can be released using the two spring catches below the handrail for telescopic movement and adjusted to its maximum height. Pull the rail upwards using both hands simultaneously (fig. B, 1./2). Take care not to tilt and jam the element. Follow these actions in reverse to lower the rail. **Do not force the movement!**

3. To lower the side rails, push the two release slides inwards with both hands (fig. A, 2.) and lower the side rails carefully into the standby position.

Caution! When raising the side rails and side rail height extensions, ensure and check that the latches engage securely. Always use both hands to move this element!

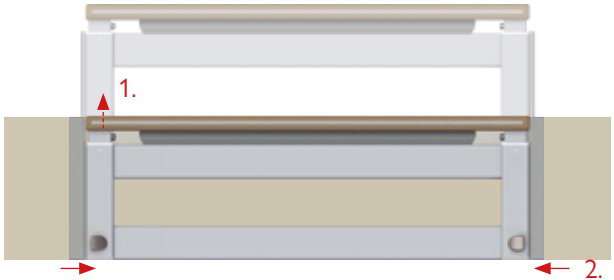


Fig. A

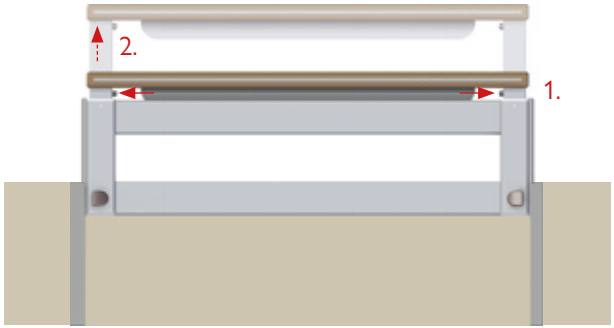


Fig. B

Adjust EVGS side rails

Vertically retractable split side rails with one-handed operation

In standby position, the side rails are located next to the sleeping surface. In this position, they prevent the mattress from slipping.

1. To raise the side rails, pull them upwards with both hands until they engage with an audible click. In the middle position, they prevent the resident falling out of bed. When raised at the head end, they also provide standing and mobility assistance for the resident. (Fig. A, 1.)

2. The side rail extension can be released using the two spring catches below the handrail for telescopic movement and adjusted to its maximum height. Pull the rail upwards using both hands simultaneously (fig. B, 1./2). Take care not to tilt and jam the element. Follow these actions in reverse to lower the rail. **Do not force the movement!**

3. To lower the side rails, pull the release handle forward with one hand (fig. A, 2.) and carefully lower the side rails into the standby position.

Caution! When raising the side rails and side rail height extensions, ensure and check that the latches engage securely. Always use both hands to move this element!

Fig. A

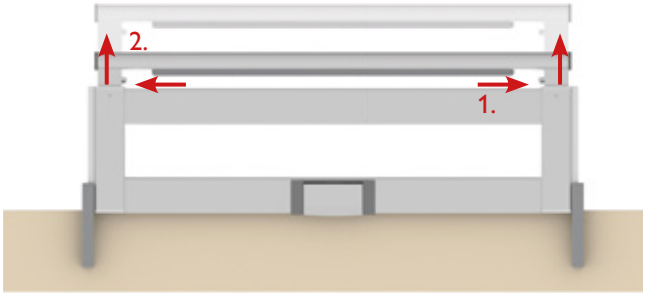
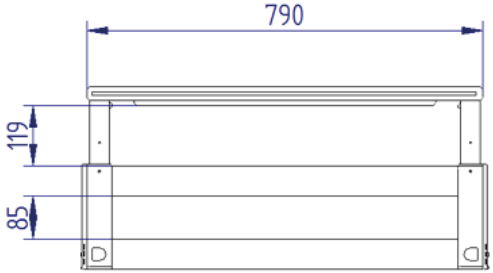
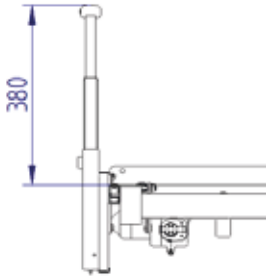


Fig. B

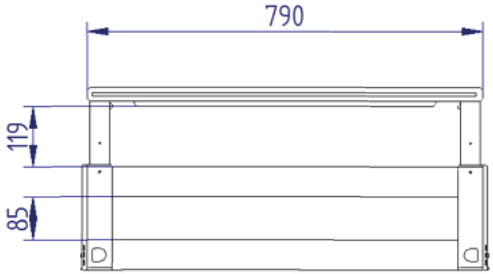
VGS side rail dimensions

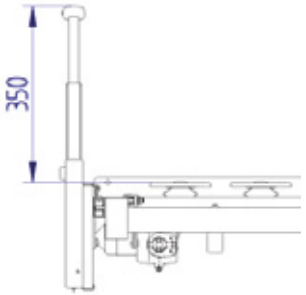
When using the ABS/metal lattice sleeping surface





When using the comfort sleeping surface





Integrated bed extension

Beds equipped at the factory with an integrated bed extension (optional) can be extended by up to 20 cm without tools. For this to be possible, the side rail bars of full-length side rails must be replaced.

This function is activated in three stages and without tools using the two locking bolts at the bottom foot end of the sleeping surface:

1. For the IMPULSE care bed with an undercarriage in editions 400/400 LR and for the AURA/AURA LR care bed, both locking bolts must be pulled upwards and then rotated about a quarter of a turn to the right to the stop point. In the case of the IMPULSE care bed with undercarriage in editions 420/420 LR, the locking bolts point laterally inwards. The operation is similar to the undercarriage editions described above. The bed extension is now unlocked.

2. Reach below the foot board and carefully pull out the bed extension by approx. 10 cm or 20 cm.

3. The locking bolts are turned back to the starting position and the bed extension is then pushed back gently until the mechanism clicks into place.

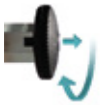
Caution! A mattress insert (accessory) must be used with 20 cm extensions. To use a mattress insert, first pull the bed extension out as far as it will go. Once the insert has been positioned, continue as described in point 3.

Caution! The sleeping surface extension must only be activated by authorised specialist staff.

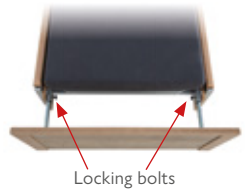
IMPULSE care bed with undercarriage Edition 400/400 LR/XL and AURA/AURA LR care bed

1.

2.



3.



Caution! For safety reasons, it is essential to replace existing safety elements and attachments if the sleeping surface extension is activated on beds with full-length side rails!

MAINTENANCE

The manufacturer is only liable for the safety and reliability of the product if it is serviced regularly and used in line with the safety instructions. If any significant faults are found during maintenance work which mean the safe operation of the product cannot be guaranteed, the product must be taken out of use. Maintenance work must be carried out at least once a year.

Any faults that impair the function and safety of the care bed must be resolved before the bed is used again and must be reported to the responsible person.

Only original replacement parts from Malsch GmbH are permitted to be used.

Service and maintenance tasks must not be conducted when the bed is occupied. The resident or the care staff must not conduct maintenance tasks.

Procedure

1. Visual inspection

Check the welded structures for cracked weld seams and for plastic deformation and wear. The welded structures include the undercarriage and the sleeping surface with the moving interior components. Also check that all screw joints are firmly connected.

2. Level of protection and functionality check of the side rails

During the functionality check, check whether the side rails can be easily locked in place and that no impermissible wear or deformation is visible.

The spacing requirements stated in BS EN 60601-2-52 are used to check the level of protection. This is shown by the following diagram and table.

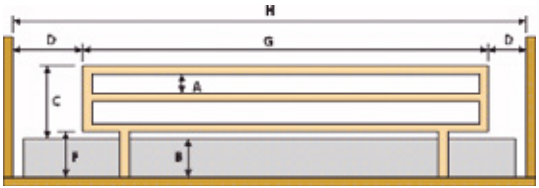


Fig. 1 (dimensions of a single-piece side rail)

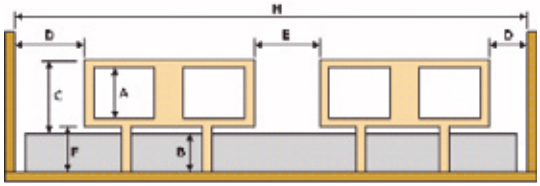


Fig. 2 (dimensions of a split side rail)

Check whether the required spacings are also complied with under load. Check dimensions A and D using a test tool in line with BS EN 60601-2-52. The test force for dimension A is 250 N.

Dimensions		Requirement [mm]
A	The largest dimension in at least one direction between components of the side rail / handrail in all commonly used positions.	A ≤ 120
B	Thickness of the normally used mattress without compression as stated by the manufacturer	As stated by the manufacturer
C	Distance from the upper edge of the side rail to the upper edge of the mattress without compression with the sleeping surface in a level position.	C ≥ 220
D	Distance between head / foot board or accessories to the side rail / handrail is parallel to the sleeping surface in a level position. This also applies to extended foot sections.	D ≤ 60 or D ≥ 318
E	Distance between split side rails with sleeping surface in a level position.	E ≤ 60 or E ≥ 318
F	The largest dimension in at least one direction of every opening below the side rail.	If D ≥ 250, F ≤ 60 If D ≤ 60, F ≤ 120
G	Length of the side rail(s)	G ≥ 2 / 3 H
H	Inner distance between head and foot board without any extension of these parts	No requirements

3. Functionality check of braking

Depending on the variant, the functionality of the braking must be checked in every position. Check whether the brakes of electrical brake systems fully retract and extend.

4. Functionality check of the lifting motors

Move all lifting motors to their end position and back again. When doing so, please observe the following points:

- Any unusual noises generated
- Synchronism of the lifting motors
- Smooth operation of the lifting motors
- Correct path of the lifting motors
- Switch off automatically once they reach the end position

The travel path of the lifting motors may vary depending on the model variant. If in doubt, please contact our customer service.

5. Visually inspect mains connection cable

Check the following points on the mains connection cable:

- Visually inspect and check the function of the strain relief and kink protection
- Visually inspect insulation parts
- Visually inspect connection cables (damage, crushing)
- Visually inspect mains connection plug
- Visually inspect cable hooks

6. Visual inspection of wiring

Check the following points:

- Damage to the cables
- Correct cable routing
- Plug connections and pull-out protection firmly connected

7. Visual inspection of housing

The housings must be checked for external damage and intact seals.

8. Battery replacement
(Only when HC-146 and HC-147 hand controllers are used)

The battery must be replaced in line with specifications at least every two years or after every case of emergency lowering.

9. Measurements in line with BS EN 62353

Check the electrical components of the care bed as specified in BS EN 62353. Leakage current is measured using substitute leakage test. The limit is ≤ 500 µA.

10. Visual inspection of grip handle for trapeze bar

Check that the plastic components and straps show no signs of damage. The grip handles must be replaced every five years.

Battery replacement

(Only when HC-146 and HC-147 hand controllers are used)

The 9-V block battery / batteries must be changed at two-year intervals and after every actuation of the electrical emergency lowering function in order to guarantee the functional capability of emergency lowering. Only use branded batteries and please dispose of old batteries in an environmentally friendly manner.

The two 9-V block batteries are inserted in the motor control unit housing below the mounting panel. The pull-out slots are secured with a screw. This must be removed beforehand.

MAINTENANCE INTERVALS

Every two years and after every emergency lowering

- Replace the two 9-V block batteries
  (Only when HC-146 and HC-147 hand controllers are used)
- If the 9-V block batteries were not replaced during the maintenance interval or after use, the electric emergency lowering function will not work.
- The care bed can still be used and fully complies with the standards and guidelines.

Annually

- Inspection and maintenance

As required

- Lubricate mechanical components
- Replace worn components
  if a defect occurs.

DELIVERY AND ASSEMBLY

Malsch GmbH care beds are generally delivered fully assembled, or they are assembled on site by company technicians or contractual partners.

Check the delivered bed against documentation for completeness and conformity.

Any defects or damage must be pointed out to the freight company immediately and noted on the delivery document.

Signing of the delivery documents by both parties is obligatory before commissioning.

If necessary, e.g. for maintenance, simple assembly procedures can also be performed by professional authorised persons.

Caution! After maintenance and servicing work has been completed, check the functionality of electrical systems.

The manufacturer offers technician training for maintenance and servicing work on their care beds. A certificate obtained as part of this training authorises the holder to carry out technical work independently on the beds.

DISPOSAL INSTRUCTIONS

The service life of the care bed is specified as 10 years if used appropriately.

Disposal instructions

- The operator must ensure that none of the components being disposed of are infectious / contaminated.
- If the bed is scrapped, the wood, plastic and metal parts used in its construction must be separated and disposed of properly.
- If you have any questions, contact your local authority, waste-disposal company or our customer service.

Electrical component disposal

- This bed is electrically adjustable and classified as a commercially used electrical device according to WEEE Directive 2012 / 19 / EU (implemented in Germany in the electrical equipment act).
- The electrical components used are free from banned harmful substances in line with the RoHS-II Directive 2010 / 65 / EU.
- Replaced electrical components (drives, control units, hand controllers etc.) of these beds must be treated as electronic waste in line with the WEEE Directive and disposed of properly.

Battery disposal

- Any individual removed batteries that can no longer be used must be disposed of properly as defined by Directive 2006 / 66 / EC (implemented in Germany in the battery legislation) and must not be discarded of with domestic waste.
- For information on this matter, contact your local waste-disposal company or our Service department.

In other countries outside Germany / the EU, the relevant, applicable national requirements must be observed.

ACCESSORIES (OPTIONAL)

Trapeze bar

The trapeze bar can be inserted to the left and right of the head end in the designated mounting sockets on the sleeping surface frame. Please ensure that the bolt is properly seated in the notch provided on the mount.

Its safe working load is 75 kg.

IV drip holder

The IV drip holder can be inserted in the sockets provided on the sleeping surface frame to the left or right of the head / foot end.

The IV drip holder is only intended for attaching IV drips and not for hanging up other accessories or similar objects.

The maximum load is 8 kg (2 kg per hook).

Bed light

The bed light is attached to the mount provided on the sleeping surface frame in the same way as the trapeze bar.

Caution! For safety reasons, the bed light must only be used with the care bed manufacturer's original adapter and must only be fitted by authorised specialist staff.

Follow the safety instructions in the bed light instruction manual.

Hand control holder

The additional, optional hand control holder is used to position the hand controller within reach of the resident.

Caution! The hand control holder is flexible and must not be used as an aid to standing up or as a handle.

Integrated bed linen holder

The integrated bed linen holder can be easily extended by pulling at the base of the foot board. This hygienic shelf directly on the bed simplifies changing the bed linen.

TROUBLESHOOTING

Malfunction	Possible cause	Possible solution
Drives cannot be operated using the hand controller	Mains cable not plugged in	Plug in the mains cable
	Socket not live	Check socket
	Cable plug connection not firmly connected	Check plug connections on the motor and hand controller
	Hand controller or drive faulty	Inform the operator, specialised dealer or our customer service
	Functions locked on the hand controller	Release the function on the hand controller (☞ *p. 21-20)*
Motorised adjustment system is not functioning properly	There is an obstruction in the adjustment area	Check moving parts and remove any obstructions
	The safe working load has been exceeded	Reduce the load
Drives cut out after a long period of operation	The adjustment time or safe working load has been exceeded and the control unit has reacted to overheating	Allow the drive system to cool down sufficiently.
Opposite function activates when operating the hand controller button	Motor plugs have been mixed up	Check that the cables are connected correctly or inform your operator, specialist retailer or our customer service
The side rails can no longer be properly adjusted	The mechanism is blocked or bent	Check all moving parts and remove any obstructions or contact our customer service
Castors do not brake or cannot be rolled	Obstructions have become trapped in the castors	Remove obstructions
	The castor system is faulty	Contact our customer service team

PRODUCT SAFETY

This product bears the CE seal and therefore meets the requirements of German and European safety standards applicable to the product.

Standard	Comment
MPDG	Medical devices implementation act
Regulation (EU) 2017/745	Medical Device Regulation (MDR)
BS EN ISO 13485	Medical devices. Quality management systems
BS EN ISO 9001	Quality management systems
BS EN ISO 14001	Environmental management systems
BS EN ISO 14971	Risk analysis
BS EN 12182	Assistive products for persons with disability
BS EN 60601-2-52	Medical electrical equipment
BS EN 60601-1	Medical electrical equipment
BS EN 60601-1-2	EMC – electromagnetic compatibility
BS EN 12530/BS EN 12531	Medical castors
BS EN ISO 15223-1	Symbols to be used with medical device labels
BS EN 1041	Symbols and information accompanying medical products
DIN 33402-1	Human body dimensions
DIN 68861-1	Furniture surfaces
BfArM recommendation	German Federal Institute for Drugs and Medical Devices

CLEANING AND DISINFECTION

Disinfection

The care bed must be disinfected regularly and at least before every change of resident. All detergents in line with BS EN 12720 are suitable for wipe-down disinfection of the bed. The care bed must not be disinfected in inline washing systems or using water spray. Malsch GmbH recommends the products listed by the RKI for disinfection.

The detergents used for disinfection must only be used in line with the manufacturer's instructions.

Caution! Under no circumstances use abrasives, cleaning pads or stainless-steel cleaners for cleaning. Before using any disinfectants, please consider the dosage and any potential hazards that may be caused by combining them with other substances. Pull out the mains plug when disinfecting the care bed and protect the drive system from moisture.

We provide separate instructions for cleaning and disinfecting our care beds.

Care of wooden parts

Malsch care beds only use wooden parts that are finished in compliance with the DIN 68861-1A standard. The aim is to produce a comfortable design, maximum functionality and a high level of practical use. To ensure you are able to enjoy this product for as long as possible, we recommend cleaning with commercial furniture cleaning products and polishes.

Even after extremely careful selection and sorting of our wooden materials, the wood is subject to a natural ageing process. Over time, environmental influences such as air humidity, heat and UV radiation can cause changes in the colour of real wood surfaces, even when they are treated. Solid wood elements are a natural product with an individual grain and characteristics. Slight colour and shading differences within the same delivery are natural and technically unavoidable. For these reasons, relative shading and colour differences and marks due to natural growth patterns in real wood do not constitute a fault and Malsch GmbH can accept no liability or warranty claims for these.

SAFE DECOMMISSIONING / STORAGE

Proceed as follows to safely decommission the bed or prepare the bed for storage:

- Disconnect the bed from the power by pulling out the mains plug.
- Activate the brake system.

Storage

- Charge the (optional) battery regularly to prevent deep discharge.
- Remove any accessories such as bed lights, trapeze bars etc.
- Cover the care beds so that the wooden parts and the frame cannot be damaged.
- Mark the storage date clearly on the bed (so that maintenance intervals can be observed).
- Lock the hand controller.

Caution! The same conditions apply to the storage location of care beds as to the working environment (temperature, humidity, heat, etc.)

The manufacturer's transport aid must be used to transport the beds.

ELECTROMAGNETIC COMPATIBILITY (EMC)

The bed is intended for operation in the electromagnetic environments listed below. The customer or user of the bed must ensure that it is used in a suitable environment.

Guidelines and manufacturers' declarations – electromagnetic emissions

Emission measurement	Compliance	Electromagnetic environment directive
RF emissions, CISPR 11	Group 1	The bed uses HF energy exclusively for its internal functions. Therefore, it produces very low HF emissions, and it is unlikely that nearby electronic devices will be adversely affected.
RF emissions, CISPR 11	Class A	The bed is suitable for use in all facilities including residential areas and those that are directly connected to a public supply network that also supplies buildings used for residential purposes.
HF emissions IEC 61000-3-2	Class A	
Voltage fluctuations and flicker IEC 61000-3-3	Compliant	

Guidelines and manufacturers' declarations – electromagnetic resistance

Phenomena	EMC basic standard or test procedure	Environments in domestic health care areas	Compliance level	Electromagnetic environment – directives
Static electricity discharge	IEC 61000-4-2	±8 kV contact	±8 kV contact	The flooring material must be wood or concrete. If synthetic materials are used, the relative humidity must be at least 30 %.
		±2 kV, ±4 kV, ±8 kV, ±15 kV air discharge	±2 kV, ±4 kV, ±8 kV, ±15 kV air discharge	
High-frequency electromagnetic fields	IEC 61000-4-3	10 V / m	10 V / m	Portable and mobile radio devices must not be used closer to the care bed and its cables than the recommended distance calculated using the equation applicable to the frequency of the transmitter.
		80 MHz to 2.7 GHz	80 MHz to 2.7 GHz	
			80 % AM at 1 kHz	

Magnetic fields with energetic rated frequencies	IEC 61000-4-8	30 A / m 50 / 60 Hz	30 A / m 50 / 60 Hz	Power-frequency magnetic fields must correspond to the typical value found in the business and hospital environments.
Electrical fast transient disturbances / bursts	IEC 61000-4-4	±2 kV 100 kHz repetition frequency	±2 kV	The power supply quality must correspond to that of a typical business or hospital environment.
Surge voltage Cable to cable	IEC 61000-4-5	±0.5, ±1 kV	±0.5, ±1 kV	The power supply quality must correspond to that of a typical business or hospital environment.
Surge voltage Cable to ground	IEC 61000-4-5	±0.5, ±1 kV, ±2 kV	±0.5, ±1 kV, ±2	The power supply quality must correspond to that of a typical business or hospital environment.
Conducted disturbances induced by high-frequency fields	IEC 61000-4-6	3 V 6 V in ISM and amateur radio frequency bands	3 V 6 V in ISM and amateur radio frequency bands	
Voltage dips	IEC 61000-4-11	0 % UT; ½ cycle at 0, 45, 90, 135, 180, 225, 270 and 315 degrees 0 % UT; 1 cycle and 70 % UT; 25 / 30 cycles Single-phase: at 0 degrees	0 % UT; ½ cycle at 0, 45, 90, 135, 180, 225, 270 and 315 degrees 0 % UT; 1 cycle and 70 % UT; 25 / 30 cycles Single-phase: at 0 degrees	The power supply quality must correspond to that of a typical business or hospital environment. If the user of the bed requires continued functionality even in the event of power supply disruptions, it is advisable to supply the bed with power from an uninterruptible power supply or from a battery.
Power failures	IEC 61000-4-11	0 % UT; 250 / 300 cycles	0 % UT; 250 / 300 cycles	

Interference resistance of enclosure ports to high-frequency wireless communication equipment

Test frequency [MHz]	Band [MHz]	Service	Modulation	Maximum power [W]	Distance [m]	Immunity test level [V/m]
385	380 to 390	TETRA 400	Pulse modulation 16 Hz	1.8	0.3	27
450	430 to 470	GMRS 460, FRS 460	Frequency modulation ±5 kHz deviation 1 kHz sine	2	0.3	28
710	704 to 787	LTE band 13, 17	Pulse modulation 217 Hz	0.2	0.3	9
145						
780						
810	800 to 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation 18 Hz	2	0.3	28
870						
930						
1,720	1,700 to 1,990	GSM 1800 CDMA 1900 GSM 1900 DECT LTE band 1, 3,4,5 UMTS	Pulse modulation 217 Hz	2	0.3	28
1,845						
1,970						
2,450	2,400 to 2,570	Bluetooth WLAN 802.11 b/g/n RFID 2450 LTE band 7	Pulse modulation 217 Hz	2	0.3	28
5,240	5,100 to 5,800	WLAN 802.11 a/n	Pulse modulation 217 Hz	0.2	0.3	9
5,500						
5,785						

WARRANTY AND SERVICE

By purchasing a care bed from Malsch GmbH, you have chosen a premium, high-quality product.

Malsch care beds are covered by a 24-month warranty calculated from the date of purchase.

In the event of material or manufacturing faults occurring within the warranty period, the bed will be replaced or repaired free of charge.

This excludes faults and errors caused by inappropriate handling or external influences.

Our normal terms of business and delivery apply.

If you have any questions, please contact us on the following numbers:

Customer service

Tel: +49 (0) 6626 915 100
Fax: +49 (0) 6626 915 127

info@bettenmalsch.de
bettenmalsch.com

DECLARATION OF CONFORMITY

reddot award 2016 winner

GERMAN DESIGN AWARD WINNER 2018

Malsch care & clinic design

DE

EU-Konformitätserklärung

nach der Verordnung (EU) 2017/745 des europäischen Parlaments und des Rates vom 5. April 2017 über Medizinprodukte, Anhang IV.

Der Hersteller
Malsch GmbH
Rohbergstraße 9, 36208 Wildeck
Tel.: +49 (0) 6626 915-100, Fax: +49 (0) 6626 915-116
SRN DE-MF-000005173

erklärt in alleiniger Verantwortung, dass die nachfolgend benannten Produkte den grundlegenden Anforderungen und Bestimmungen der Verordnung (EU) 2017/745 für Medizinprodukte entsprechen und gemäß der Anhänge II, III und VIII (Regel 1,13) der Risikoklasse I zugeordnet werden:

Pflegebett AURA
Pflegebett IMPULSE
Pflegebett AYLEEN

Basis UDI-DI: 4065848MALSCH-PKL00002V

Die bezeichneten Produkte wurden unter Anwendung der folgenden Richtlinien und harmonisierten Normen produziert:

Elektrische Sicherheit:
IEC 60601-1 A2:2019

Mechanische Sicherheit:
IEC 60601-2-52:2009+A1:2015

Elektromagnetische Verträglichkeit (EMV):
IEC 60601-1-2:2014

Gebrauchstauglichkeit:
IEC 60601-1-6:2010+A1:2013
IEC 62366-1:2015+COR1:2016

Risikomanagement:
DIN EN ISO 14971:2020-07

Richtlinie zur Beschränkung gefährlicher Stoffe RoHS:
Richtlinie 2011/65/EU

Durch die Einhaltung der Bestimmungen der Verordnung (EU) 2017/745 werden die Anforderungen zur Anbringung einer CE-Kennzeichnung erfüllt. Aufgrund der Spezifikation als Medizinprodukt Klasse I werden Produkt und Verpackung spätestens ab Mai 2025 zusätzlich mit einer UDI-Kennzeichnung versehen. Eine Konformität der Produkt- und Entwicklungsdokumentation sowie des QM-Systems wird durch die Zertifizierung nach DIN EN ISO 13485:2016 bestätigt.

Bei einer mit uns nicht abgestimmten Änderung des oben genannten Produktes verliert diese Erklärung ihre Gültigkeit.

Wildeck, den 25.01.2022

Rayk Malsch
Geschäftsführer / CEO / Gérant

EN

EC Declaration of Conformity

according to Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 concerning medical devices, Ann. IV.

The manufacturer
Malsch GmbH
Rohbergstraße 9, 36208 Wildeck, Germany
Phone +49 (0) 6626 915-100, Fax: +49 (0) 6626 915-116
SRN DE-MF-000005173

declares under its sole responsibility that the devices named below comply with the essential requirements and provisions of Regulation (EU) 2017/745 for medical devices and are assigned to risk class I in accordance with Annexes II, III and VIII (Rule 1,13):

Care bed AURA
Care bed IMPULSE
Care bed AYLEEN

Basic UDI-DI: 4065848MALSCH-PKL00002V

The designated products have been produced in application of the following directives and harmonised standards:

Electrical safety:
IEC 60601-1 A2:2019

Mechanical safety:
IEC 60601-2-52:2009+A1:2015

Electromagnetic Compatibility (EMC):
IEC 60601-1-2:2014

Usability:
IEC 60601-1-6:2010+A1:2013
IEC 62366-1:2015+COR1:2016

Risk Management:
DIN EN ISO 14971:2020-07

Directive on the Restriction of Hazardous Substances RoHS:
Directive 2011/65/EU

By complying with the provisions of Regulation (EU) 2017/745, the requirements for affixing a CE marking are fulfilled. Due to the specification as a medical device class I, the product and packaging will additionally be provided with a UDI marking from May 2025 at the latest. Conformity of the product and development documentation as well as the QM system is confirmed by certification according to DIN EN ISO 13485:2016.

In the event of a modification of the above-mentioned product not agreed with us, this declaration loses its validity.

TÜV CERT

AGB einsehbar unter bettenmalsch.com

CERTIFICATES

TÜV PROFI CERT

ZERTIFIKAT

für das Managementsystem nach

ISO 13485:2016

DIN EN ISO 13485:2016+Ber 1:2017-07 - EN ISO 13485:2016+AC:2016

Der Nachweis der regelkonformen Anwendung wurde erbracht
und wird gemäß TÜV PROFICERT-Verfahren bescheinigt für

Malsch
care & clinic design

Betten Malsch GmbH
Rohbergstraße 9
D-36208 Wildeck - Obersuhl

Geltungsbereich:

Entwicklung, Herstellung und Vertrieb von
Kranken- und Pflegebettensystemen, Objektausstattung

Zertifikat-Registrier-Nr. **73 105 1297** | Zertifikat gültig von 2020-07-11 bis **2023-07-10**

Auditbericht-Nr. 4367 3534 | Erstzertifizierung 2017-07-11

TÜV PROFI CERT

ZERTIFIKAT

für das Managementsystem nach

DIN EN ISO 9001:2015

Der Nachweis der regelkonformen Anwendung wurde erbracht
und wird gemäß TÜV PROFICERT-Verfahren bescheinigt für

Malsch
care & clinic design

Betten Malsch GmbH
Rohbergstraße 9
D-36208 Wildeck - Obersuhl

Geltungsbereich:

Entwicklung, Herstellung und Vertrieb von
Kranken- und Pflegebettensystemen, Objektausstattung

Zertifikat-Registrier-Nr. **73 100 1297** | Zertifikat gültig von 2019-10-01 bis **2022-09-30**

Auditbericht-Nr. 4352 8721 | Erstzertifizierung 2004-07-21

TÜV PROFI CERT

ZERTIFIKAT

für das Managementsystem nach

DIN EN ISO 14001:2015

Der Nachweis der regelkonformen Anwendung wurde erbracht
und wird gemäß TÜV PROFICERT-Verfahren bescheinigt für

Malsch
care & clinic design

Betten Malsch GmbH
Rohbergstraße 9
D-36208 Wildeck - Obersuhl

Geltungsbereich:

Entwicklung, Herstellung und Vertrieb von
Kranken- und Pflegebettensystemen, Objektausstattung

Zertifikat-Registrier-Nr. **73 104 1297** | Zertifikat gültig von 2019-10-01 bis **2022-09-30**

Auditbericht-Nr. 4352 8721 | Erstzertifizierung 2013-10-01

Art. no. 91300 130101.1
DE, updated 05/2022, version. 1.1
Colours may vary

Subject to technical changes

Malsch GmbH | Rohbergstraße 9 | 36208 Wildeck-Obersuhl | Germany
Tel.: +49 (0) 6626 915 100 | Fax: +49 (0) 6626 915 116
bettenmalsch.com | info@bettenmalsch.de

CE