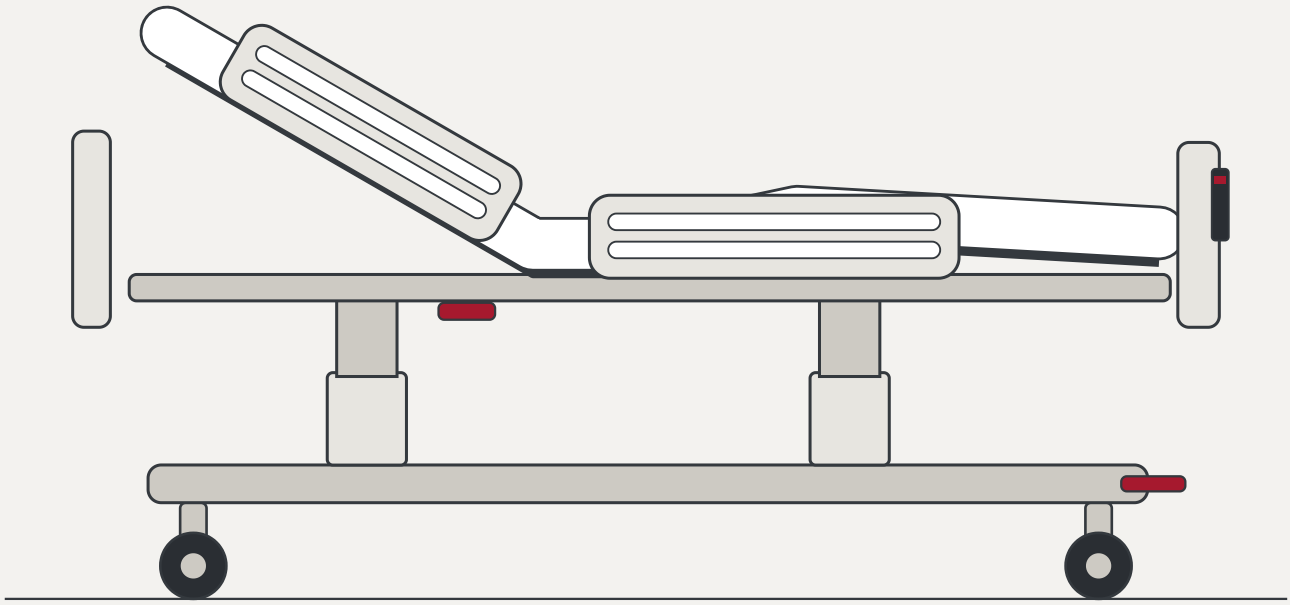
VAN ROON



INSTRUCTIONS FOR USE

VR-7

intensive-care bed

VRM-IFU-0701-EN-GB · Revision H · 19 May 2025

English · United Kingdom and Ireland

ABOUT THIS EDITION

Manufacturer

Van Roon Medische Techniek B.V.
Leiden, the Netherlands

UK Responsible Person, importer and distributor in the United Kingdom and Ireland

Van Roon Medical UK Ltd
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Revision history

Revision	Date	Changes
F	27 March 2023	VR-A4 surface control from the footboard panel.
G	15 April 2024	Lateral tilt start and stop; Irish-language option.
H	19 May 2025	Lithium-ion battery packs and the battery charge profile (section 7.15).

These instructions apply to VR-7 beds with package version 2025.1 or later. The package version is shown under Settings › About this bed. If your bed runs an earlier package, some screens may differ.

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1 About these instructions

Read these instructions before using the VR-7, and keep them with the bed or where the staff who use it can find them. They are for nurses, healthcare assistants, porters and other staff who use, move and clean the bed, and for the engineers who look after it day to day.

Service and repair work beyond what is described here must only be done by Van Roon engineers or by engineers who hold a current Level 2 certificate for the VR-7.

Safety notices in these instructions

WARNING
A hazard that could result in death or serious injury if not avoided.

CAUTION
A hazard that could result in minor injury, or damage to the bed or other property, if not avoided.

NOTE
Information that helps you use the bed correctly.

Names of controls are printed in **bold**. Messages on the footboard panel are printed in CAPITALS.

2 Intended use

Intended purpose

The VR-7 is a powered hospital bed intended to support and position adult patients in intensive-care units and other critical-care areas, and to move them within the hospital. It is intended to be used with a mattress that meets the requirements in section 12.

Patients

Adults with a height of 146 cm or more, a weight of 40 kg or more and a body mass index of 17 or more, up to a patient weight of 185 kg.

Users

Healthcare professionals trained in the use of the bed. Patients may use the patient handset and the side rail controls on the patient side if a healthcare professional has decided that it is safe for them to do so.

Environment

Application environments 1 (intensive and critical care), 2 (acute care) and 3 (long-term care in a medical area) as defined in IEC 60601-2-52. The bed is not intended for use in the home, in vehicles or outdoors.

Contraindications

None known. Patients who do not meet the criteria above, including children, may only be cared for in the bed after a documented clinical risk assessment, with the side rail gaps assessed for the individual patient.

Expected service life

Ten years from first use, if the bed is maintained as described in section 10.

3 Safety information

General

WARNING
Do not exceed the safe working load of 250 kg (patient, mattress and accessories). The safe working load includes the patient, the mattress and every accessory fitted to the bed.

WARNING
Before moving any part of the bed, check that no person, limb, equipment or bedding can be trapped by the movement, including under the platform and between the platform and the base frame.

WARNING
Leave the bed at its lowest height, with the brakes applied, whenever the patient is unattended, unless a clinical reason requires otherwise.

WARNING
Use the lockout functions to prevent a patient from operating functions that could harm them, particularly if the patient is confused, sedated or a child.

WARNING
Do not modify the bed. Use only accessories and spare parts supplied by Van Roon.

Side rails and entrapment

WARNING
Side rails are not a restraint. Assess each patient's risk of falling and of entrapment before deciding to use the side rails, and record the decision.

WARNING
Side rails are designed for the mattresses listed in section 12. A thicker mattress reduces the effective height of the rails above the mattress; a thinner or softer mattress can increase the gaps between the rail and the mattress. Check the rail height above the compressed mattress is at least 220 mm.

WARNING
After raising a side rail, check by hand that it is locked by pulling it gently towards you.

Electrical

WARNING
Connect the bed only to an earthed mains socket. Do not use extension leads or multi-way adaptors.

WARNING
Route the mains lead so that it cannot be crushed by the bed or run over by the castors. Unplug the bed and stow the lead on its hook before moving the bed.

CAUTION
Do not use the bed if the mains lead, plug, handsets or their cables are damaged.

Emergency functions

WARNING
Make sure every member of staff who may care for a patient in the bed knows where the red CPR release handles are and how to use them. Check them at the start of every shift.

WARNING
In a cardiac arrest, the mechanical CPR release works without power. Do not wait for the electric CPR function if it does not respond at once.

Oxygen and other gases

WARNING
Do not use the bed in an oxygen tent or in an oxygen-enriched atmosphere. Keep oxygen cylinders in the holder (VR7-0430) and away from the controller housing.

Moving the bed

CAUTION
Push the bed from the head or foot end, not from the side rails, the IV poles or the monitor support.

CAUTION
Do not move the bed across slopes steeper than 6°, or over steps or thresholds higher than 20 mm.

Battery

CAUTION
Use only Van Roon battery packs. After fitting a battery pack of a different kind from the one removed, set the battery charge profile as described in section 7.15.

4 Description

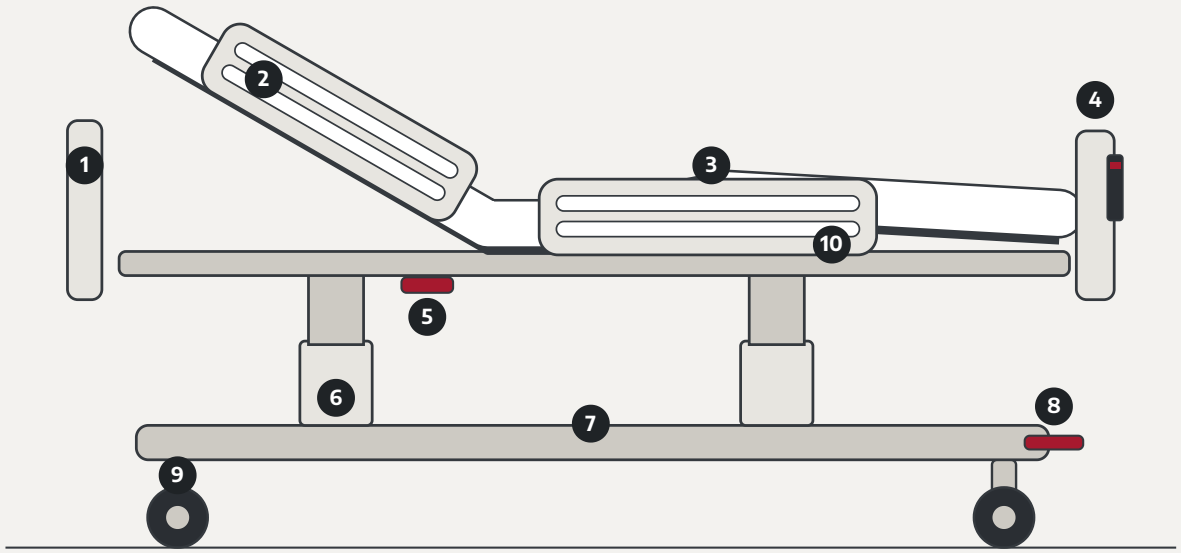


Figure 1. VR-7, side view

1. Head board (removable)
2. Head-end side rail, moves with the backrest
3. Foot-end side rail
4. Foot board with the footboard panel
5. CPR release handle (red), both sides
6. Lifting columns
7. Base frame and controller housing
8. Brake and steering pedal, four corners
9. Castors
10. Mattress platform, four sections

Labels on the bed

The rating label is on the base frame at the foot end, under the foot board. It gives the model, serial number, year of manufacture, electrical rating, safe working load and maximum patient weight. The serial number begins with the model and year: for example, 7B22 is a VR-7 made in 2022.

Symbol	Meaning
!	Caution: read the instructions for use
MD	Medical device
SN	Serial number
REF	Catalogue number
UDI	Unique device identifier
IPX4	Protected against splashing water
SWL	Safe working load, 250 kg (patient, mattress and accessories)

Symbol	Meaning
kg max	Maximum patient weight, 185 kg
B	Type B applied part
AE	Adult patients only (see section 2)
WEEE	Do not dispose of with household waste (see section 14)
CPR	CPR release handle (red)

5 Before first use

New beds are delivered, assembled and tested by Van Roon. Before the bed is used for the first time:

1. Check that the bed has been entered on the hospital's asset register with its serial number.
2. Fit the mattress and check that it is retained by the mattress retainers at the head and foot.
3. Connect the bed to the mains and check that the footboard panel shows the battery charging. Charge the battery for at least eight hours before using the bed on battery.
4. Check every function described in section 7, including the CPR release on both sides.
5. Zero the scale with the mattress and any accessories fitted, then set the language and units under Settings.
6. Make sure the staff who will use the bed have been trained.

> **NOTE**
> Clinical training is given by Van Roon's clinical education team when beds are delivered. A quick reference card for nursing staff is available.

6 Controls

Footboard panel

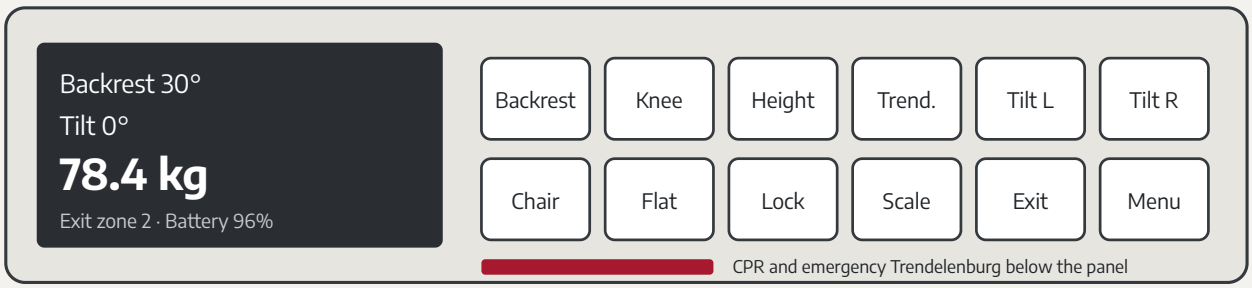


Figure 2. The footboard panel

The footboard panel is the main control of the bed. Press **Lock** to unlock it; it locks itself again after 60 seconds without use. The display shows the backrest angle, lateral tilt, the patient's weight, the patient-exit detection zone and the state of the battery.

The buttons for CPR and emergency Trendelenburg are below the panel, behind a hinged red cover. They work whether the panel is locked or not.

Side rail controls

Each head-end side rail has controls on its outer face, for staff, and on its inner face, for the patient. The outer controls include emergency Trendelenburg. The inner controls can be locked from the footboard panel.

Handsets

The nurse handset hangs on the foot board or a side rail and gives all movements. The patient handset gives backrest, knee and height, and can be locked function by function.

Lockouts

From the footboard panel, choose **Lock** › **Functions** to lock individual movements on the patient controls. Locked functions show a padlock on the panel. Lockouts do not affect the emergency functions.

7 Using the bed

7.1 Brakes and steering

Press the pedal at any corner down fully to apply the brakes on all castors. Lift it to the middle position to release them; lift it fully to set steering, which locks the castor at the foot end on the patient's right in line with the bed. A red indicator on the base frame shows when the brakes are off, and the footboard panel shows CHECK BRAKE if the bed is left unbraked with the mains connected.

7.2 Height

The platform moves between 410 to 830 mm measured without a mattress. Work at a height that suits the task, and leave the bed at its lowest position when the patient is unattended.

7.3 Backrest

The backrest moves from 0 to 70°. Its angle is shown on the footboard panel and on an indicator on each head-end side rail. A short tone sounds as the backrest passes 30° in either direction.

7.4 Knee and leg sections

The knee section rises with the backrest (auto-contour) to limit the patient sliding down the bed. It can also be moved on its own.

7.5 Trendelenburg and reverse Trendelenburg

The platform tilts up to 16° head down or head up. Hold the button until the tilt you need is reached.

7.6 Lateral tilt



The platform tilts up to 25° to either side. Tilt stops at 15° unless both side rails on the low side are raised and locked. To tilt beyond 15°, raise the rails and press the tilt button again.

WARNING

Before tilting, make sure lines, tubes and drains are long enough and secured, and that the patient is positioned centrally.

7.7 Chair position



Press and hold **Chair**. The backrest rises, the knee section rises and the leg section lowers, and the platform tilts head up. Release the button to stop. Press **Flat** to return to a flat platform.

7.8 CPR

Mechanical CPR release. Pull either red handle at the side of the backrest. The backrest lowers to flat in under ten seconds without power. Guide it down with your other hand.

Electric CPR. Lift the red cover below the footboard panel and press **CPR**. The backrest goes flat, the platform levels from any tilt and lowers to a working height.

WARNING

Keep hands and objects clear of the space below the backrest while it lowers.

7.9 Emergency Trendelenburg

Lift the red cover below the footboard panel, or use the button on the outer face of either head-end side rail, and hold **Emergency Trendelenburg**. The platform tilts to 16° head down for as long as the button is held.

7.10 Side rails

To raise a rail, lift it by its top edge until it locks. To lower it, hold the top edge, pull the release lever under the rail towards you and guide the rail down. Each rail can be lowered independently.

7.11 Length extension

The platform can be lengthened by 200 mm in two steps for tall patients. Pull the foot board out after releasing the two catches under the foot end of the platform, and fit the extension cushion.

7.12 Weighing

With the patient lying still and nothing touching the bed, press **Scale**. The weight is shown after about five seconds and stored with the date and time. The last 30 weighings are shown under **Scale** › **Trend**.

To add or remove an accessory without changing the weight shown, press **Scale** › **Tare** before and after the change.

WARNING

If the weight will be used to calculate a drug dose, check that the scale was zeroed with the bed empty and that nothing is resting on or against the bed.

7.13 Patient-exit detection

Choose a zone: zone 1 alarms when the patient moves towards the edge of the bed, zone 2 when the patient sits up on the edge, and zone 3 when weight leaves the bed. The alarm sounds at the bed and, if the bed is connected, on the ward's nurse call system.

NOTE

Patient-exit detection is an aid. It does not replace observation of patients at risk of falling.

7.14 Moving the bed

Unplug the bed and hang the mains lead on its hook. Release the brakes and set steering. The bed keeps all its functions on battery, so it can be positioned for transfer at the destination.

7.15 Battery and charge profile

The battery charges whenever the bed is connected to the mains. A full charge takes about eight hours. The footboard panel shows BATTERY LOW when about 20% of the charge remains.

The bed must be told which kind of battery pack is fitted. After fitting a pack of a different kind from the one removed, choose Settings › Battery › Charge profile, enter the service code and choose **Lithium-ion** or **Lead-acid**. Check that the battery is shown charging, then zero the scale with the bed empty.

CAUTION

If a lithium-ion pack is used with the lead-acid profile, the scale can read high while the bed is charging.

8 Accessories

Part number	Accessory	Notes
VR7-0410	IV pole, two-stage, telescopic	Fits any of the four corner sockets
VR7-0414	IV pole, four hooks, with pump holder	Maximum load 12 kg
VR7-0422	Monitor support, head end	For monitors up to 9 kg on a standard 75 mm mount
VR7-0430	Oxygen cylinder holder	Sizes up to 2.0 litre water capacity
VR7-0460	X-ray cassette tray	Under the radiolucent backrest; no need to move the patient
VR7-0471	Fifth castor	Retro-fit kit, fitted by a Van Roon engineer
VR7-0480	Remote diagnostics module	Lets the Leiden service centre read the bed's event log, with the hospital's agreement
VR7-0502	Nurse call cable, 2 m	State the hospital's connector type when ordering
VR7-0515	Line organiser, side rail	Two per bed recommended
VR7-0520	Accessory rail, 25 × 10 mm	Both sides; supplied in pairs
VR7-0590	Battery pack, 24 V lithium-ion	Replaces the lead-acid pack VR7-0588; controller firmware 4.10 or later

CAUTION

Accessories count towards the safe working load. Fit IV poles and supports only in the sockets intended for them.

9 Cleaning and disinfection

Clean the bed between patients and whenever it is visibly soiled. The full method, and the list of agents tested by the manufacturer, is in VRM-DG-0005-UK, Cleaning and decontamination of VR-series beds and surfaces.

1. Disconnect the bed from the mains.
2. Remove the mattress and clean it separately.
3. Wipe the bed from the top down with a cloth moistened with detergent or an approved disinfectant. Do not spray liquid onto the bed.
4. Keep liquid out of the footboard panel, the handset connectors and the controller housing.
5. Dry all surfaces before reconnecting the bed.

> **CAUTION**
> Do not use phenolic disinfectants, solvents, abrasive pads, steam, pressure washers or automated bed washers.

10 Care and maintenance

Daily checks

- The mains lead, plug and handset cables are undamaged.
- The battery indicator shows charging when the bed is connected.
- The side rails lock when raised.
- The brakes hold the bed.
- The red CPR handles are in place and not obstructed.

Planned maintenance

The VR-7 needs planned maintenance every 12 months, including an electrical safety test, a check of every function, a load test of the side rails, a calibration check of the scale and a test of the battery. The footboard panel shows SERVICE DUE when the date set at the last visit has passed.

Service

Report faults to the Van Roon service desk on 0808 157 0614 (from Ireland +44 113 496 0391), giving the serial number. Do not attempt repairs that are not described in these instructions.

11 Troubleshooting

Message or symptom	Possible cause	What to do
Nothing works	Battery flat and mains disconnected	Connect to the mains. Use the mechanical CPR release if needed.
CHECK BRAKE	Brakes released with the mains connected	Apply the brakes.
BATTERY LOW	About 20% charge left	Connect the bed to the mains.
BATTERY FAULT	Pack faulty or not detected	Use the bed on mains only and call the service desk.
MOVEMENT STOPPED	Obstruction detected under the platform	Remove the obstruction, then move in the opposite direction.
TILT LIMITED	Low-side rails not raised	Raise and lock both rails on the low side.
OVERLOAD	Load above the safe working load	Remove accessories or equipment from the bed.
FUNCTION LOCKED	Lockout set from the footboard panel	Unlock under Lock › Functions.
SCALE NOT ZEROED	No zero since the last power-up or tare change	Zero the scale with the bed empty.
Weight seems wrong	Something touching the bed; tare not set; charge profile	See sections 7.12 and 7.15.
EXIT ALARM	Patient-exit detection triggered	Attend the patient. Press Exit to silence.
SERVICE DUE	Planned maintenance date passed	Book planned maintenance.
SURFACE ALARM	VR-A4 pump alarm	See the VR-A4 instructions for use.
CONTROLLER FAULT and a code	Internal fault	Note the code, take the bed out of use if movements are affected, and call the service desk.

12 Technical data

Dimensions

Overall length	2,190 mm (2,390 mm with the length extension)
Overall width	1,040 mm side rails raised; 990 mm side rails lowered
Mattress platform	2,000 × 880 mm
Platform height (without mattress)	410 to 830 mm
Under-bed clearance	150 mm, for mobile hoists
Weight of bed	172 kg without mattress and accessories

Positions

Backrest	0 to 70°, with angle indication on the side rails and panel
Thigh section	0 to 32°
Leg section	0 to −20° (lowered for the chair position)
Trendelenburg and reverse Trendelenburg	16° each way
Lateral tilt	±25°, stopped at 15° unless the low-side rails are raised
One-touch positions	Flat, cardiac chair, CPR, emergency Trendelenburg, examination height
Auto-contour	Thigh section rises with the backrest to limit sliding

Loads

Safe working load	250 kg (patient, mattress and accessories)
Maximum patient weight	185 kg
Side rail	Split side rails, four sections, each tested to the requirements of IEC 60601-2-52

Weighing and patient-exit detection

Scale	Integrated, four load cells; resolution 0.1 kg; accuracy ±0.5 kg from 20 to 250 kg
Tare	Automatic tare with accessory memory
Patient-exit detection	Three zones; audible and visual alarm at the footboard; nurse call relay

Electrical

Supply	230 V AC, 50 Hz; maximum consumption 450 VA
Protection	Class I; type B applied part; IPX4
Battery	24 V lithium-ion pack (from 2025); earlier beds 2 × 12 V lead-acid
Battery operation	All movements for transport; about 30 full cycles from full charge
Nurse call	Interface for the hospital's nurse call system; connector to order
Equipotential	Equipotential bonding stud at the head end

Mobility

Castors	125 mm twin-wheel, central braking and steering from four pedals

Fifth castor	Optional, for straight-line transport
Transport	Fits a standard lift car of 1,400 × 2,400 mm with the head and foot boards fitted

Regulatory and service

Classification	Medical device, Class I; CE and UKCA marked
Standards	IEC 60601-1, IEC 60601-1-2, IEC 60601-2-52
Expected service life	10 years
Planned maintenance	Every 12 months
Manufacturer	Van Roon Medische Techniek B.V., Leiden, the Netherlands

Environment

Operation	+10 to +40 °C; 30 to 75% relative humidity; 700 to 1,060 hPa
Storage and transport	−10 to +50 °C; 20 to 90% relative humidity; 500 to 1,060 hPa
Actuator duty cycle	Intermittent: 2 minutes on, 18 minutes off
Noise	Below 55 dB(A) in movement

Mattresses

Use mattresses 2,000 mm long and 860 to 880 mm wide, 140 to 220 mm deep, such as the Van Roon VR-A4 or VR-H2 or VR-F1. With any other mattress, check the side rail height and gaps as described in section 3.

13 Electromagnetic compatibility

The VR-7 needs special precautions regarding electromagnetic compatibility and must be installed and used according to the information in this section.

Electromagnetic emissions

Emissions test	Compliance	Guidance
RF emissions, CISPR 11	Group 1	The bed uses RF energy only for its internal function. Its RF emissions are very low and are not likely to cause interference in nearby electronic equipment.
RF emissions, CISPR 11	Class A	Suitable for use in hospitals. It may not offer adequate protection to radio-frequency communication services in a residential environment.
Harmonic emissions, IEC 61000-3-2	Class A	Suitable for connection to the public low-voltage supply in buildings used for healthcare.
Voltage fluctuations and flicker, IEC 61000-3-3	Complies	

Electromagnetic immunity

Immunity test	Test level	Compliance level
Electrostatic discharge, IEC 61000-4-2	±8 kV contact; ±2, ±4, ±8, ±15 kV air	As test level
Electrical fast transients, IEC 61000-4-4	±2 kV power lines; ±1 kV signal lines, 100 kHz	As test level
Surge, IEC 61000-4-5	±0.5, ±1 kV line to line; ±0.5, ±1, ±2 kV line to earth	As test level
Voltage dips, IEC 61000-4-11	0% U_T for 0.5 cycle at 0°, 45°, 90°, 135°, 180°, 225°, 270°, 315°; 0% U_T for 1 cycle; 70% U_T for 25 cycles	As test level. The bed continues on battery during dips.
Voltage interruptions, IEC 61000-4-11	0% U_T for 250 cycles	As test level
Power frequency magnetic field, IEC 61000-4-8	30 A/m, 50 Hz	As test level
Conducted RF, IEC 61000-4-6	3 V, 0.15 to 80 MHz; 6 V in ISM and amateur bands	As test level
Radiated RF, IEC 61000-4-3	3 V/m, 80 MHz to 2.7 GHz, 80% AM at 1 kHz	As test level
Proximity fields from RF wireless equipment, IEC 61000-4-3	9 to 28 V/m at the frequencies listed in the standard	As test level

WARNING

Portable RF communications equipment, including antennas and mobile phones, should be used no closer than 30 cm to any part of the bed, including cables. Otherwise its performance could be degraded.

WARNING

Do not use the bed next to or stacked with other equipment. If this cannot be avoided, observe both to check that they work normally.

14 Disposal

At the end of its life the bed must be disposed of as waste electrical and electronic equipment. Van Roon Medical UK takes back old beds when it delivers new ones and can collect beds on their own; contact the service desk. Remove the battery pack and dispose of it separately. Clean and disinfect the bed before it is collected.

15 Contact

United Kingdom and Ireland
Van Roon Medical UK Ltd
Unit 3, Tarnfield Way
Morley
Leeds
LS27 0YT
Service desk 0808 157 0614 · From Ireland +44 113 496 0391
service@vanroon.uk · vanroon.uk

Manufacturer
Van Roon Medische Techniek B.V.
Leiden, the Netherlands

Report any serious incident involving the bed to Van Roon Medical UK and to your national reporting system.

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Technical documentation for this bed, including the service manual, parts lists and wiring diagrams, is available to Van Roon-trained engineers on the service portal at vanroon.uk/service/portal/.

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