Hillrom™

Hill-Rom® 900 Accella™ Bed

Instructions for Use

LI900B4

194412

194412
Rev.12

EN

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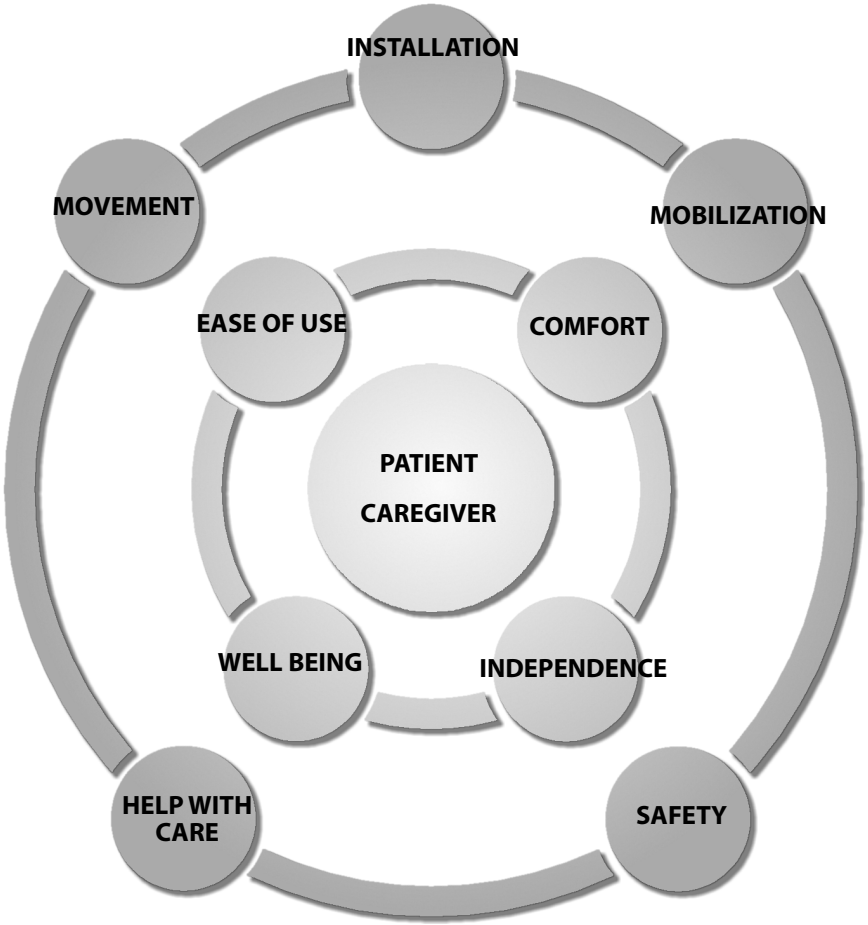
Introduction, specifications

The structure of the Instructions for Use

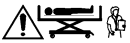
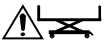


For every type of use, Hillrom™ beds provide patients with optimal comfort and greater independence for a feeling of well-being that is conducive to a swift recovery. They are also easy to use for caregivers.

Symbol definitions

This Instructions for Use contains different typefaces and icons designed to improve readability and increase understanding of its content. Note the following examples:

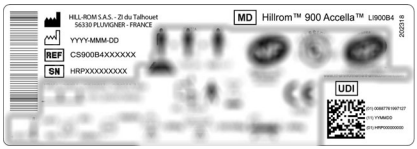
- standard text - normal character style used for "basic" information.
- **Boldface text**- emphasizes a word or phrase.
- ⓘ highlights special information or explains very important instructions,
- The symbols below represent different risks or hazards:

Symbol	Description
	Warning • This symbol indicates that the failure to follow the associated recommendation can put the patient or the user in danger, or damage the equipment.
	Caution • This symbol indicates that the failure to follow the associated recommendation can result in damage to the equipment.
	Tip
	Risk of falling
	Caught hazard warning
	Risk of crushing an upper limb
	Chemical Hazard Warning
	Electric Shock Hazard

Bed model and country of use

Certain features or accessories may be available or not, depending on the destination country. These features are identified with an asterisk (*) and the accessories or the additional parts are identified by two asterisks (**).

To identify your bed model, its serial number SN (HRPXXXXXXXXX),its UDI and its date of manufacture, refer to the identification label (see “Overview” page 14). Your LI900B4 bed is made up of a chassis/sleep surface, with a REF reference starting with CS900B4 and two endboards (a headboard and a footboard)..



- REF: CS900B4XXXXXX; CS900 = Hill-Rom® 900 Accella™; B = Version; 4XXXXXX = a unique 7-figure numerical code matching various criteria, such as the voltage, the electrical functions, the language, etc.
- SN: HRPXXXXXXX: HRP = Hill-Rom Pluvigner; XXXXXXX = incremental code.
- UDI; Unique Device Indification.

Safety and Usage Tips

Intended Use

The Hill-Rom® 900 Accella™ LI900B4 medical beds, with CPR, are intended for intensive (the CPR function remains operational in the event of an electric power outage), acute and ambulatory care for **adult patients** (EN60601-2-52 application environments 1, 2 and 5). The design benefits are the application of the advanced techniques used in specialized units, with the needs of the whole medical team in mind, and facilitate the use of monitoring equipment and the transfer of patients to examination wards.

Contraindications

- children (aged less than 12 or under 1.46 m tall),
- persons over 1.85 m tall,
- persons with BMI below 17,
- persons weighing less than 40 kg,

Features

The Hill-Rom® 900 Accella™ LI900B4 beds are equipped with:

- an emergency CPR function (Cardio Pulmonary Resuscitation),
- a Trendelenburg/reverse Trendelenburg function,
- batteries providing protection against power outages,

The Hill-Rom® 900 Accella™ LI900B4 beds can be equipped with:

- a patient position detection system,
- a nurse call function*,
- a built-in weigh system (compliant with the directive 2014/31/EEC) indicating the weight and BMI of the patient.
- a Wi-Fi communication system* (compliant with Directive 2014/53/EEC)
- a system to power and control the Accella™ Therapy* mattress that helps to prevent and treat phase I, II, III and IV pressure ulcers in low to very high-risk adult patients

Intended Users

The Hill-Rom® 900 Accella™ beds are designed to be used by Qualified Staff. Patients and Visitors can also use the Hill-Rom® 900 Accella™medical beds depending on authorization given by Qualified Staff.

First use

⚠ Before using the bed, it is essential to have a thorough understanding of this Instructions for Use. This Instructions for Use contains instructions for general use and maintenance and guarantees improved safety. Caregivers must have access to this Instructions for Use.

Training can be provided on demand.

Caregivers must be informed of the risks that may be encountered in the use of electric beds.

The many sources and types of accessories, hardware, or medical devices that may be used together with this bed do not enable Hill-Rom to guarantee both the safety and conformity of all the combinations thus created. The operator who creates these device combinations must therefore ensure that security and conformity requirements are met.

Use of accessories, transducers and cables other than those specified or provided by Hill-Rom could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.

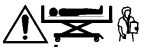
Waste packaging (plastic, cardboard, metal, wood, etc.) must follow suitable recovery circuits with a view to being recycled.

Before installing the bed for the first time or after bringing the bed and its accessories out of storage:

- ensure that the bed and its various parts are at room temperature.
- only connect the bed to a mains electric power supply with earth protection (see "Electrical safety" page 8),
- the power plug must be accessible to disconnect the bed,
- wait 12 hours until the battery is fully charged before using the bed without the mains power supply,
- make sure that all the moving parts are in good working order,
- check the time and language settings,
- make sure that the bed has been cleaned and disinfected (see "Decontaminating the bed" page 89).

Risk prevention

General recommendations



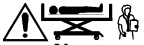
In general:

- ***check that nothing (e.g. objects, accessories, power cable, maintenance cable or nurse call cable) or any persons (e.g. children, limbs) will interfere with the movement of the mobile parts of the bed before actuating them. An intermittent beep sounds when one of the bed's movements is hindered.***
- ***during a movement or combination of movements of a mobile part of the bed (eg, backrest, sleep surface, siderail), be vigilant (for oneself, the patient or any other person) on the risks of pinching or crushing between moving parts or with a fixed part.***

- ***always check (e.g. to and fro movements) that the various locking mechanisms are in good working order (e.g. siderails, extensions, brakes).***
- ***sufficiently qualified nursing staff determines the usage condition suitable for the various functions and the degree of supervision to ensure that the patient uses the bed safely.***

When the patient is left unattended:

- ***apply the brakes to prevent any risks of falling, especially if the patient leans on the bed when getting in or out,***
- ***leave the sleep surface in the lowest position to avoid serious consequences in the event of falling,***
- ***use the siderails to secure the patient and reduce the risk of falling accidentally,***
- ***lock any function that, if misused, could worsen existing injuries or pathologies, or even result in bodily injury,***
- ***never leave the bed in the Trendelenburg position.***



Never modify the bed without Hill-Rom's prior written consent. Alterations could result in injury to the patient or damage to the bed.

Only use manufacturer's parts and accessories.

Never place objects or equipment on the chassis or use it to support a person.

Do not use of the bed with loads in excess of the safe working load.

Notice to Users and/or Patients:
Any serious incident that has occurred in relation to the device, should be reported to the manufacturer and the Competent Authority of the Member State in which the user and/or patient is established.

Recommendations for the siderails

In the case of patients suffering from particular behavioral difficulties (e.g., agitation, mental confusion, loss of sense of direction, obsessive behavior, old patients, weakness, etc.), properly trained medical staff should ascertain how the siderails should be used (irrespective of the model or type), whether the patient should be monitored closely or immobilized and whether the patient helpers should be left in position, in order to ensure that patients use the bed in complete safety.

Certain national health authorities have issued guidelines risks to patients and the reduction of these hazards, as indicated below.

It is recommended that patients at risk be identified in each establishment or ward so that the safety measures most appropriate to their particular needs can be implemented.

One measure which has already proved effective is to draw up a protocol specifying:

1. situations and conditions for siderail use and authorized mattress type or model,
2. for all patient monitoring procedures, both for restrained and unrestrained patients, including during intervals,
3. circumstances under which patients must be restrained according to the instructions and recommendations of the manufacturer of the said restraining devices.

The siderails are designed to help reduce the risk of patients falling out of bed accidentally. They are not designed to restrain or immobilize the patient. Restraining straps or other devices must not be fastened to them.

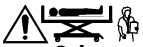
Recommendations for the mattresses

Hill-Rom shall not be held liable for any problems occurring if the mattress used is not included in the list of equipment recommended by Hill-Rom (see "References of recommended mattresses" page 24).

Despite the protective height above the mattress and the top of the siderail, patients can still potentially fall or become trapped in the spaces around the mattress.

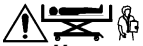
Use of a mattress thicker than the thickness recommended in "References of recommended mattresses" page 24 may reduce the effectiveness of the siderails. Thicker mattresses can increase the risk of falling and shorter or narrower mattresses can increase the risk of patients becoming trapped. In such cases, the patient must be monitored closely.

As assessed by the "Hospital Bed Safety Workgroup" guide and the standard EN 60601-2-52, the mattress label on page 22 lists the mattresses recommended for use on the Hill-Rom® 900 Accella™ to offer the safest conditions. The therapeutic benefits of the other therapeutic mattresses listed in page 22 outweigh the residual risk of entrapment or fall incurred by their use.



Other mattresses may be used, but the manufacturer must always be consulted to make sure that the bed/mattress/siderail combination does not affect the bed's performance, its suitability for use or its safety characteristics.

If the bed is fitted with an electrically powered air mattress, the power cord must be routed so as to prevent it from being cut by the moving parts of the bed.



Users must check the compatibility of the patient's weight and the accessories placed on the bed and the mattress system in view of the specifications of the medical bed and the mattress system.

If the mattress power cord is unplugged, it is advisable to store it on the support provided by the mattress supplier.

Recommendations for the function lockouts

The electrical function management control prevents any unintended bed movements that might cause injury to the patient.

It is highly recommended that functional lock out should be used whenever a patient is undergoing examination or treatment or when the bed is being serviced or moved. Functions should also be locked out when the patient is left unattended and if the nursing staff believes that the patient is not capable of operating the controls independently in safety.

It is thus the responsibility of the nursing staff to authorize the patient to use certain bed functions, including the HiLow.

ⓘ *The Trendelenburg / Reverse Trendelenburg, Boost™*, chair* and CPR* functions must only be accessible to caregivers.*

Electrical safety

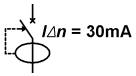
When direct intravascular or intracardiac connections are in use, the electric potentials of all the unprotected metal parts need to be equalized. The bed must be connected to a mains electric power supply with earth protection.

In an environment where electrostatic discharges are prevalent, we recommend the use of an antistatic caster.

The mains power supply for the bed must comply with following standards:

- NF C 15-100 and NF C 15-211 (France),
- International Electrotechnical Commission (IEC) 364 for other locations.

Check that the bed's power requirements on the identification label (see "Overview" page 14) correspond to the power supply voltage of the hospital.



The power supply should be equipped with a maximum 30 mA earth leakage circuit breaker, in compliance with IEC 364-5-53.

ⓘ *All the parts of the bed within the patient's reach are applied parts, even if they are under the bed frame.*

If the integrity of the protective conductor is in doubt, the beds fitted with batteries must be used in battery mode.

In compliance with standards relating to electromagnetic interference for medical equipment, this product does not interfere with other medical devices or is not susceptible to interference when combined with other medical devices that also comply with the electromagnetic standards in force.

Some devices, particularly older ones that do not comply with the electromagnetic compatibility standards, may however undergo interference or may themselves interfere with the working of this product.

The users of such devices are responsible for ensuring that any malfunctions will not endanger the patient or any other person.

Use of this equipment adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this equipment and the other equipment should be observed to verify that they are operating normally.

Ensure that the power cord is unplugged and hooked to the bed before moving the bed (see "Securing the power cable" page 88).

Only duly qualified and authorized staff should carry out electrical maintenance.

Never clean or service the bed without unplugging it from the mains power supply and disconnecting the battery.

The battery backup must never be left in direct contact with fire, placed in liquid, or discarded in a refuse bin. In the event of the battery being damaged, see "End-of-life equipment" page 95.

This label indicates that **the bed must never be used with an oxygen tent or in explosive atmospheres** (presence of inflammable gases or vapors). Use only nasal tubes and oxygen masks. For reasons of safety, masks and tubes should always be kept at a higher level than the mattress support platform.

Always lock out the HiLow function before any cleaning or maintenance operations.

If the bed is equipped with a battery, and the bed is stored for long periods of time, the battery must be charged every 3 months. Failure to do so could result in damage to the battery.

General precautions for the place of use

It is advisable not to use the bed under the following conditions:

- in hospital wards other than the intended ward (see "Intended Use" page 4),
- climatic conditions outside the corresponding ranges recommended by Hill-Rom,
- in hyperbaric chambers,
- in explosive atmospheres,
- in the presence of flammable gases or vapors,
- with oxygen tent type respiration devices or devices that extend below the sleep surface,
- outdoors or to transport a patient in a vehicle,
- moving the bed over soft ground or inappropriate surfaces,
- moving the bed along slopes of over 10° (with or without a patient).

Climatic restrictions

Service temperature	+10° to +40° C
Service humidity	30% - 85%
Working atmospheric pressure	700 hPa to 1,060 hPa

Precautions for transport and storage

The following conditions must be met to ensure that the bed and its accessories are shipped and stored in complete safety.

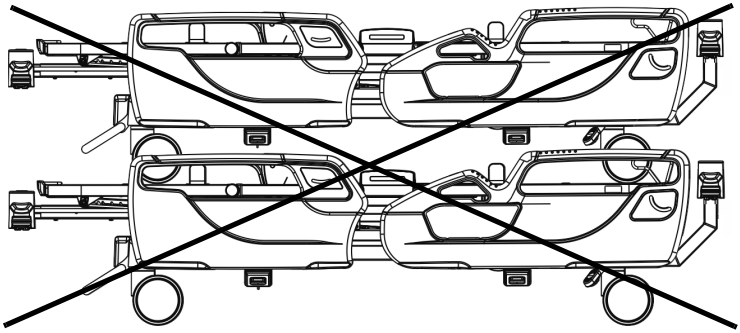
During shipment[a], the bed must be:	When stored, the bed must be:
- in the low position - in "function lock out" mode - covered, brakes applied, strapped - protected from fluid ingress	- in the low position - in "function lock out" mode - covered, brakes applied - protected from fluid ingress

a. Transport does not include the transfer of the bed between wards with or without patients.

Climatic restrictions on transport and storage

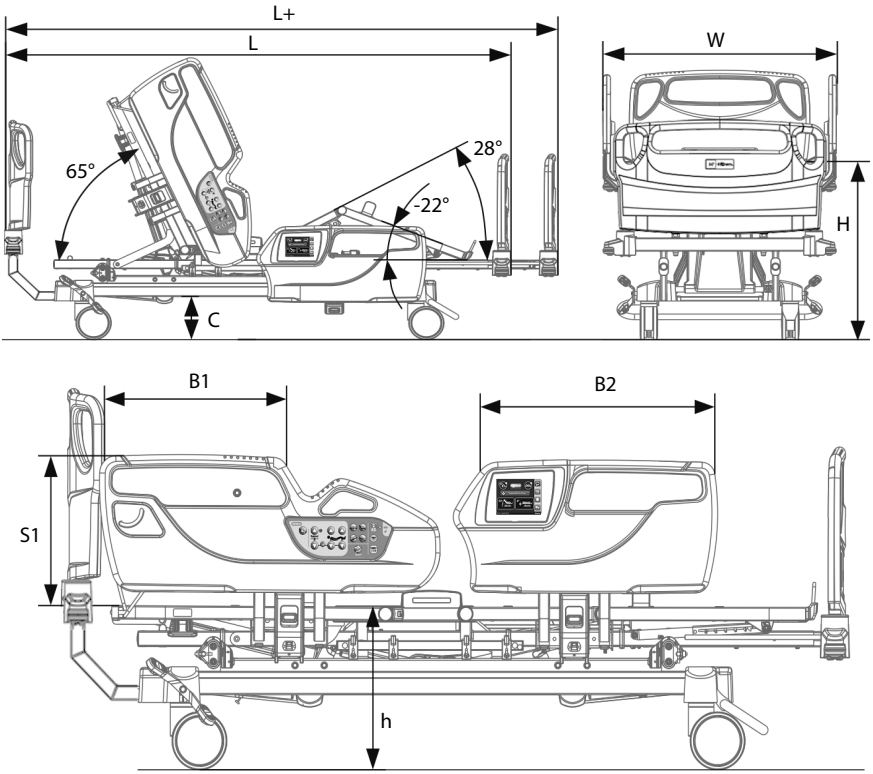
Transport/storage temperature	-30° to +50° C
Transport/storage hygrometry	20% - 85%
Transport/storage atmospheric pressure	700 hPa to 1,060 hPa

During shipment or storage, beds should not be stacked one on top the other.



Technical specifications

Hill-Rom has an ongoing continuous improvement policy. Therefore specifications are liable to be altered without notice.



Features	Value
Maximum width (W)	995 mm[a]
Maximum length (without extension) (L)	2158 mm[a]
Maximum length (with extension closed) (L)	2158 mm[a]
Maximum length (with extension open) (L+)	2358 mm[a]
Length of the head half-siderail protection (B1)	499 mm[a]
Length of the foot half-siderail protection (B2)	631 mm[a]
Siderail protection height (without mattress) (S1)	393 mm[a]
Low position (double-band 125[b] diameter casters) (h)	386 mm[a]
Low position (double band 150[b] diameter casters) (h)	431 mm[a]
Low position (150[b] diameter casters) (h)	439 mm[a]
High position (double-band 125[b] diameter casters) (H)	747 mm[a]
High position (double band 150[b] diameter casters) (H)	800 mm[a]
High position (150[b] diameter casters) (H)	808 mm[a]
Chassis clearance (double-band 125[b] diameter casters) (C)	150 mm[a]

Features	Value
Chassis clearance (double band 150[b] diameter casters) (C)	195 mm[a]
Chassis clearance (150[b] diameter casters) (C)	203 mm[a]
Head section[c] incline	+ 65°[a]
Thigh section[c] incline	+ 28°[a]
Foot section[c] incline	- 3° to -22°[a]
Trendelenburg/Reverse Trendelenburg	- 17°/+ 17°[a]
Boost™ patient position mechanism[c]	- 7 °
Electric CPR - return adjustable head section (T1) and sleep surface (T2) to flat position	T1 < 5 s T2 < 30 s
Safe working load (SWL)	250 kg
Maximum patient weight	185-215 kg[d]
LI900B4 bed weight (no mattress or accessories)	170 kg
Total weight authorized during moving	420 kg
Maximum temperature of the applied parts at 40°C	56.5° C
Unweighted peak acoustic pressure levels	<120 dB
Weighted maximum measured acoustic pressure	42 dBA

a. These are average values, which may vary according to manufacturing tolerances.
b. Dimensions in mm.
c. Maximum incline in relation to the sleep surface
d. SWL 250 kg / the maximum patient weight varies according to the mattress and accessories used
- 185 kg as per EN60601-2-52 (intensive and acute care)
- 215 kg as per EN60601-2-52 (ambulatory care)

Electrical characteristics

Features	120V*	230V*
Voltage	120V AC	230V AC
Frequency:	60 Hz	50/60 Hz
Maximum absorbed power	500 VA	500 VA
Electric shock protection	Class I	
Class according to IEC 60601-1	Type B	
Protection against harmful ingress of water (according to IEC 60529)	IPX4	
Duty cycle	10% (2 min/18 min)[a]	

a. Do not operate electrical functions continuously for more than 2 minutes in any 18 minute period when the bed is loaded at the safe working load value as this may damage electrical components. The power supply of the actuator is temporarily cut off if the load factor is exceeded when using the HiLow.

Characteristics of the weigh system (scale)

The weigh system of the Hill-Rom® 900 Accella™ bed uses four weighing cells installed in the bearing structure of the bed. The bed is made up of a mobile structure (the weigh system) and a fixed structure (the frame).

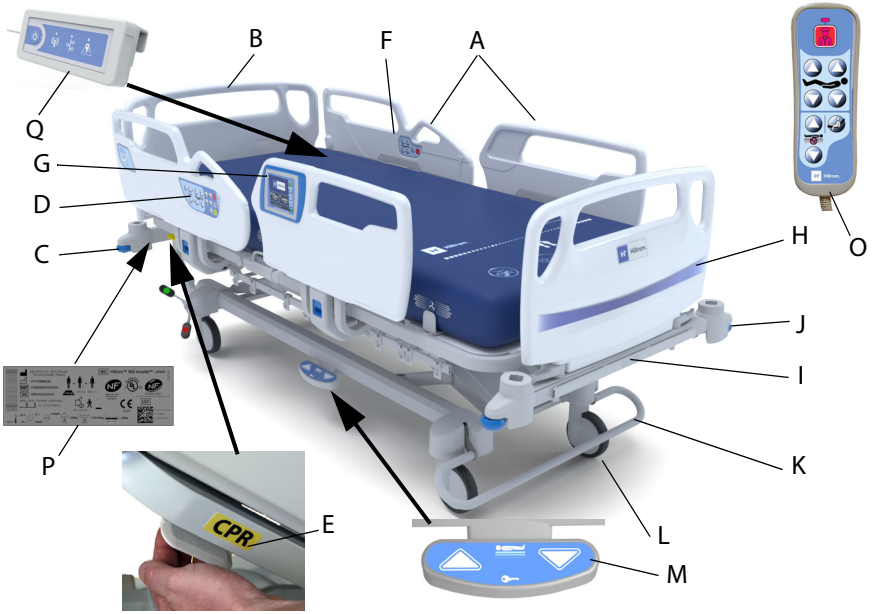
Features	Value
Class of the weigh system (2014/31/EEC) NAWI[a]	Class III
Maximum range of the weigh system	250 kg
Minimum range of the weigh system	10 kg
Range	0.5 kg

a. Non-Automatic Weigh Instrument

Conditions required to connect the nurse call system

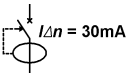
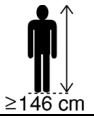
For more information about the connections required to use the nurse call function, please refer to the *SideCom® Communication System Design and Application Manual* (DS059).

Overview



Item	Name	Item	Name
A	Half-siderails	I	Extension + linen holder*
B	Headboard	J	Bumper (4)
C	2 sockets for I.V. pole and patient helper	K	Central brake and steer bar control
D	Caregiver half-siderail controls	L	150 mm diameter casters
E	Head section “CPR” control	M	Bilateral HiLow pedal with caregiver mode*
F	Patient half-siderail controls	O	Control pendant*
G	Graphical Caregiver Interface (GCI)® controls	P	Identification label
H	Footboard	Q	Wi-Fi module AD315A**

General Symbols

	Manufacturer		Date of manufacture
	Product reference		Serial number
	General safety sign		Equipotential terminal
	Refer to the Instructions for Use.		Type B Equipment
	DO NOT BIN, follow the local recycling regulations.		Direct current
	Danger – Do not use		Alternating current
	Recyclable material		Earth leakage circuit breaker rating
	Total weight authorized during moving		Body Mass Index ≥17
	Patient weight ≥40 kg		Patient height ≥146 cm
	Atmospheric pressure limits		Hygrometry limits
	Temperature limits		Maximum patient weight
	Protective earth		Safe working load (SWL)

	Do not store in the place shown		No oxygen tents
	Medical Device conformity mark	0459	Medical Device conformity mark
NF MÉDICAL - LITS NF178-01/01 www.lne.fr	NF MEDICAL - LITS compliant	M ZZ 0071	Bed with a weigh system compliant with Directive 2014/31/EEC
	Steam cleaning	NF AMEUBLEMENT www.nf-environnement-ameublement.com	NF ENVIRONMENT compliant bed
RoHS	Compliant with the ROHS Europe regulations		Compliant with the ROHS China regulations
MD	Medical Device	UDI	Unique Device Identifiant
	Duty cycle		

Function Symbols

Head section CPR

CPR

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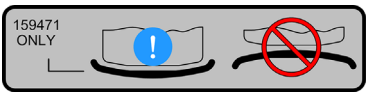
Headboard position



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Do not sit or climb on the linen holder*

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Do not sit or climb on the extension*

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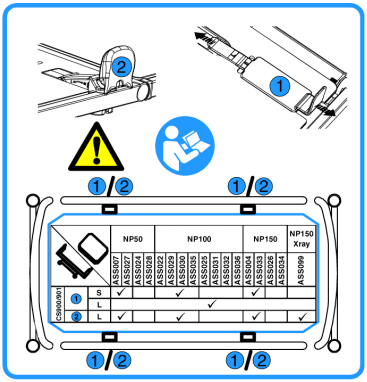
References of recommended mattresses



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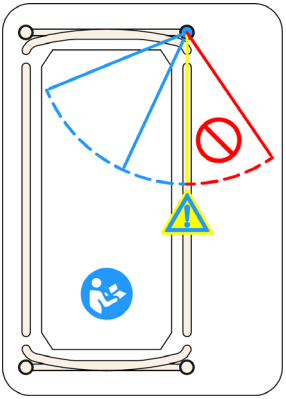
Patient helper position



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Footboard lock label

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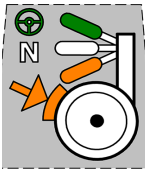
Caster control



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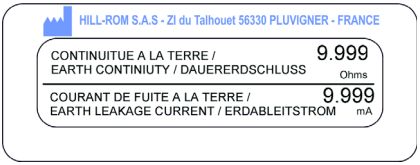
Unweighed support indicator label

Earth continuity and earth leakage current

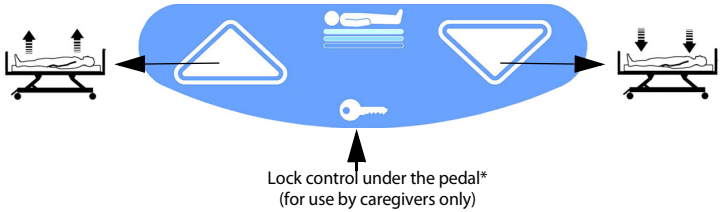


Metrological certification label of the weigh system

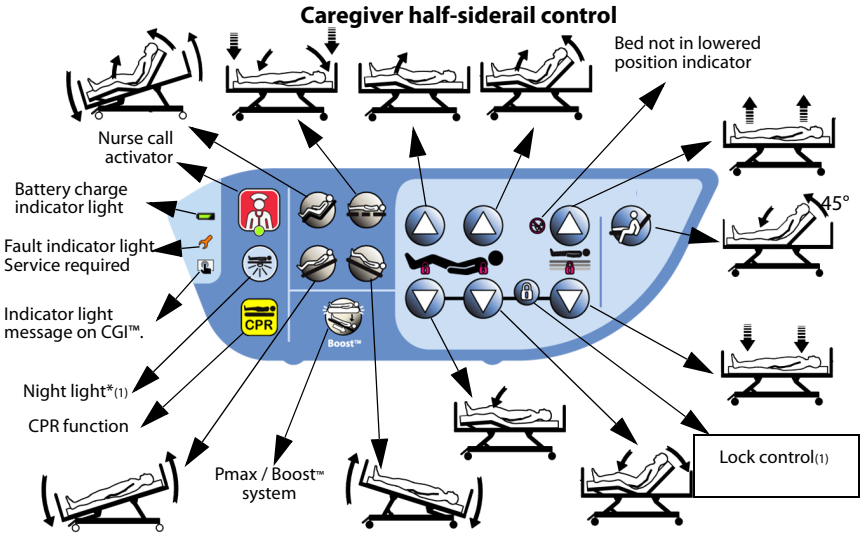
In service inspection label

Electrical controls

Bilateral HiLow pedal with caregiver mode*



Caregiver half-siderail control



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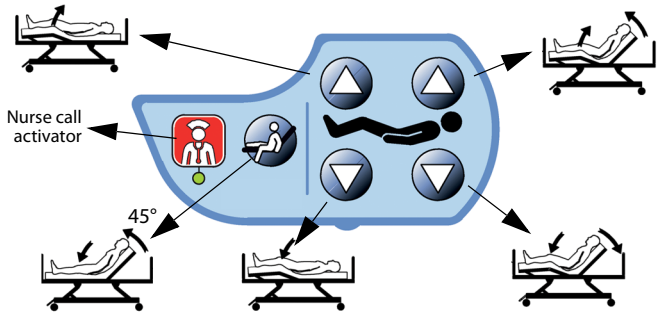
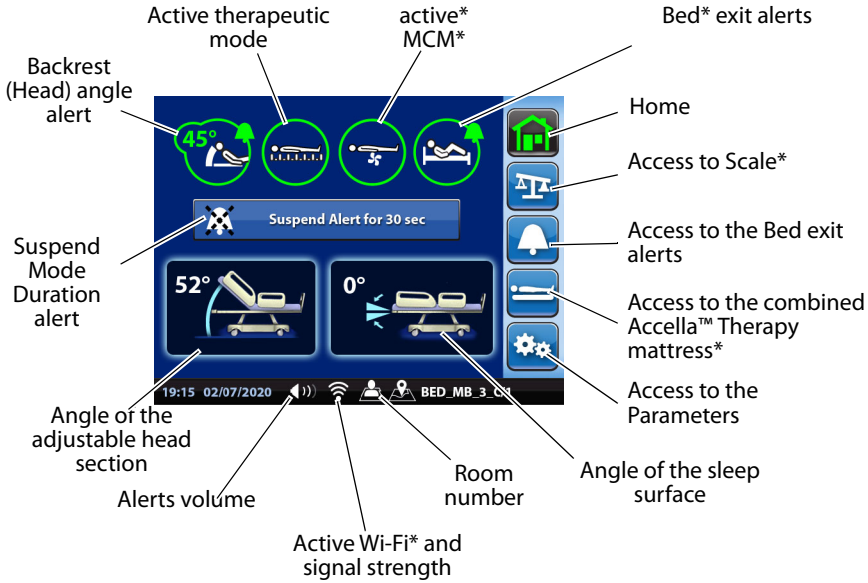
Patient half-siderail control



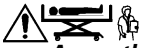
1. Functions available only to the caregiver.

Graphical Caregiver Interface (GCI)™ controls



Installing the patient

Before placing the patient on the bed



Assess the various risks, including but not limited to the following (incomplete list):

- ***Make sure that all the moving parts are in good working order.***
- ***risk of entrapment,***
- ***potential falls from the bed,***
- ***patient in state of confusion,***
- ***patient's learning ability,***
- ***persons lacking the mental capacity to recognize unsafe actions,***
- ***unauthorized persons,***
- ***check the list of recommended mattresses on the label on the adjustable head section,***
- ***if present, check that the nurse call cable is connected,***
- ***check that the four transport chocks protecting the weigh system have been removed from their housing (see "Preparing the bed for a reset/tare operation* or initializing the Bed Exit alerts system*" page 44).***

All persons authorized to use the bed's functions must be capable of doing so in a safe and controlled manner. In case of doubt, the bed's functions must be locked.

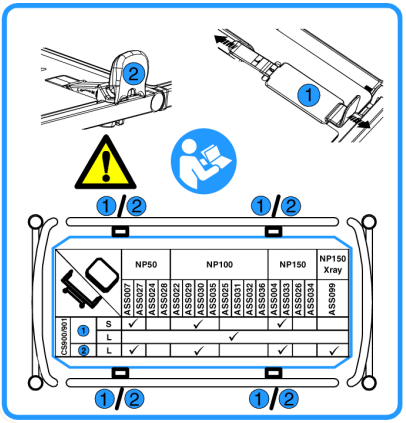
Accessories and peripheral equipments

Using accessories and peripheral equipments other than those recommended by Hill-Rom may incur risks of damage or accidents to users.

Mattress**

For the Hill-Rom® 900 Accella™ bed, Hill-Rom recommends the Hillrom™ mattresses listed below, which are compatible with the safety recommendations (see “Risk prevention” page 5):

Mattress label



Folding mattress clamp

When installing a mattress extension cushion, the clamp must be folded to avoid any contact with the lower limbs.

Adjustable mattress clamp

The position of the clamps must be adjusted according to the width of the mattress in order to center and secure the mattress.

To avoid creating entrapment zones, make sure that the mattress is centered and secured on the sleep surface by the folding clamp at the foot of the bed, with the adjustable clamps in the L or S position.

Other mattresses may be used, but the manufacturer must always be consulted to make sure that the bed/mattress/siderail combination does not affect the bed's performance, its suitability for use or its safety characteristics.

Users must check the compatibility of the patient's weight and the accessories placed on the bed and the mattress system in view of the specifications of the medical bed and the mattress system.

For beds made after June 1, 2018, it is imperative to use hard surfaces with clamps marked (A) to prevent the hard surface from sliding and the adjustable head section from becoming blocked when lowering.

References of recommended mattresses

90 cm wide mattresses are incompatible with egress handles.*

Part number	Name	Clamp position	
		S	L
P02033A	Primo™ mattress AD085A (200 x 85 x 16 cm)	X	
P02062B	ClinActiv® ⊕ Alternating Low Pressure mattress system AD237A (230V) (203 x 85 x 18 cm)	X	
P02063B	ClinActiv® ⊕ ContinuousLow Pressure mattress system AD238A (230V) (203 x 85 x 18 cm)	X	
P02064B	ClinActiv® ⊕ MCM™ Alternating Low Pressure mattress system AD234A (230V) (203 x 85 x 18 cm)	X	
P02065B	ClinActiv® ⊕ MCM™ Continuous Low Pressure mattress system AD235A (230V) (203 x 85 x 18 cm)	X	
P02039B	Duo® 2 Multi Mode mattress system AD140A (200 x 85 x 23 cm)	X	
P006783A	Accella™ Therapy multi-mode mattress system - AD305A (230V) (203 x 92 x 21.5 cm)	X	
P006790A	Accella™ Therapy multi-mode mattress system - AD305A (120V) - (203 x 92 x 21.5 cm)	X	
P006788A	Accella™ Therapy + MCM™ multi-mode mattress system - AD306A (230V) (203 x 92 x 21.5 cm)	X	
P006791A	Accella™ Therapy + MCM™ multi-mode mattress system - AD306A (120V) - (203 x 92 x 21.5 cm)	X	
P006789A	Combined Accella™ Therapy + MCM™ multi-mode mattress system - AD307A (230V) (203 x 92 x 21.5 cm)	X	
P006792A	Combined Accella™ Therapy + MCM™ multi-mode mattress system - AD307A (120V) - (203 x 92 x 21.5 cm)	X	
ASS027	NP50-SW single-density foam mattress (198 x 85 x 14 cm) - excluding UK and Italy	X	
ASS028	NP50-SW single-density foam mattress (198 x 90 x 14 cm) - excluding UK and Italy		X
ASS007	NP50-SW single-density foam mattress (198 x 85 x 14 cm) - UK and Italy only	X	
ASS029	NP100-SW dual-density foam mattress (198 x 85 x 14 cm) - excluding UK and Italy, without handles	X	
ASS031	NP100-SW dual-density foam mattress (198 x 90 x 14 cm) - excluding UK and Italy, without handles		X
ASS030	NP100-WD dual-density foam mattress (198 x 85 x 14 cm) - excluding UK and Italy, with handles	X	
ASS032	NP100-WD dual-density foam mattress (198 x 90 x 14 cm) - excluding UK and Italy, with handles		X
ASS022XT	NP100-SW dual-density foam mattress (198 x 85 x 14 cm) - UK and Italy only, without handles	X	
ASS033	NP150-WD viscoelastic foam mattress (198 x 85 x 14 cm) - excluding UK and Italy	X	
ASS034	NP150-WD viscoelastic foam mattress (198 x 90 x 14 cm) - excluding UK and Italy		X
ASS004XT	NP150-WD viscoelastic foam mattress (198 x 90 x 14 cm) - UK and Italy only		X
ASS099	NP150 X-ray viscoelastic foam mattress (198 x 90 x 14 cm) - excluding UK and Italy		X
PAH005010180-1	AccuMax Quantum™ VPC AD mattress (203 x 89 x 18 cm)		X
P005856A	P280 overlay mattress (230V) (203 x 90 x 10 cm)		
P005858A	P280 overlay mattress (120V) (203 x 90 x 10 cm)		
P005987A	P280 MRS mattress base (230V) (198 x 85x 17 cm)	X	
P006052A	P280 MRS mattress base (120V) (198 x 85x 17 cm)	X	
P006172A	P280 Air Mattress (230V) (198 x 85x 17 cm)	X	

Part number	Name	Clamp position	
		S	L
P006173A	P280 Air Mattress (120V) (198 x 85x 17 cm)	X	
FHS01C0XX[a]	Fusion Hybrid mattress (197 x 88 x 17 cm)	X	
P290A1	P290 Air overlay mattress (200 x 90 x 10 cm)		
P290A2	P290 foam base mattress + Air overlay (200 x 90 x 17 cm)	X	
P290A3	P290 Air mattress (200 x 90 x 17 cm)	X	
ASS078	Extension mattress		

a. The XX code of the Fusion Hybrid mattress corresponds to the customization of the model. These codes range from 06 to 17. i.e., from FHS01C006 to FHS01C017.

Recommended traction frame

ST875A T39 traction frame

Using traction frames on beds fitted with a weigh system or a bed exit alerts system may compromise the accuracy of the weigh system.

Recommended accessories**

AD810A Elbow patient helper
AD811A Adjustable patient helper
AC953A Chrome-plated IV hook
AC959A Oxygen cylinder holder model B5 (Ø1)
AD101A Oxygen cylinder holder model D (Ø100)
AD102A Oxygen cylinder holder model E (Ø100)
AC962A Pivoting 3L Bottle Holder
AC963A Syringe-driver holder
AD242A X-ray-transparent adjustable head section
AD244B Monitor stand
AD294A Fixed IV pole
AD298A Telescopic IV pole with four hooks
AD299A Telescopic IV pole with four hooks
AD288A Foot gap panels
AD286A IV line manager & support

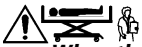
Recommended additional parts

AC968A	Equipotential connecting cable
AD270B	Removable frame
AD276A[a]	5th wheel (bed with 150mm diameter casters)
AD277A	Wall stop
AD284A[a]	Side control pendant
AD289A	5th wheel (bed with 125mm diameter casters)
AD292A	Cable attachment
AD315A	Wi-Fi connectivity module
AD322A	Head Adapter Bracket + C-Shape Head Positioner
AD325A	Label holder
P379XXXXX[b]	Communication cable

a. Remember to specify the model when ordering.
b. The XXXXX in the part number identifies the type of connector corresponding to the communication system installed.

Recommended patient lifts

2020003	Sabina™ II EE sit-to-stand lift
2020004	Sabina™ II EM mobile lift
2040015	Viking™ M mobile lift
2040013	Viking™ XL mobile lift
2000014	Golvo™ 8000 mobile lift
2000015	Golvo™ 8008 mobile lift
2000019	Golvo™ 8008 LowBase™ mobile lift



When the Viking™ XL is used with a bed equipped with 125 mm diameter casters*, when lowering the bed to the low position, make sure that the elevation arms do not hit the chassis of the patient hoist.

Recommended bed dining tables

TA270	Bed dining table
TA519	Bed dining table
TA529	Bed dining table

Endboards

Non-locking head endboard

Lockable foot endboard

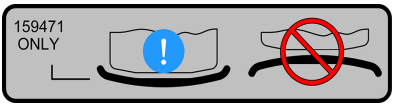
Installing the endboards

Headboard

The headboard is fitted with fins that must point towards the sleep surface. If the headboard is installed in the bed frame the wrong way round, the risk of entrapment increases.

If the head endboard is removed from the bed frame, the risk of patient entrapment or falling increases. Similarly, the use of the accessories installed at the head of the bed (e.g., IV poles, helpers, etc.) can incur risks for the patient.

The headboard can be removed for easier access to the patient's head.

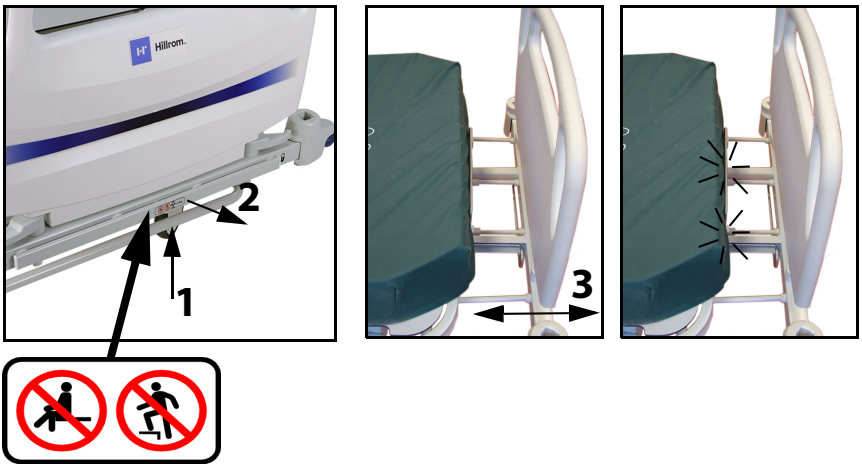


Footboard fastening system

System locked

System unlocked

Bed frame extension*



Do not sit or climb on the extension

The extension can be pulled out by 20 cm in intermediate steps of 4 cm.

Cushion for extensions is available as an additional mattress.

Part number	Name
ASS078	Extension mattress (85 x 20 x 21 cm)

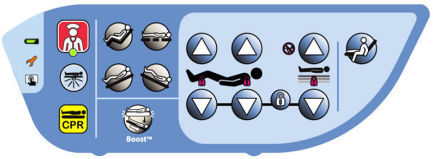
Electrical Functions Controls

The bed's power-driven movements are controlled using the controls built into the half-siderails or bilateral HiLow pedals* with caregiver mode* or the control pendant* by pressing and holding the button for the corresponding function. The movement stops when the button is released or when the limit of movement is reached.

Caregivers need to assess whether patients can be left unattended with access to the functions provided.

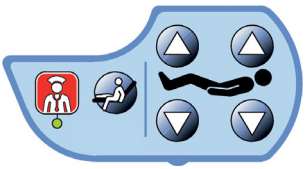
Caregiver half-siderail controls

They are placed outside the head half-siderails on either side of the bed. They are to be used by caregivers.



Patient half-siderail controls

They are placed inside the head half-siderails on either side of the bed. They are to be used by the patient.



Control pendant*

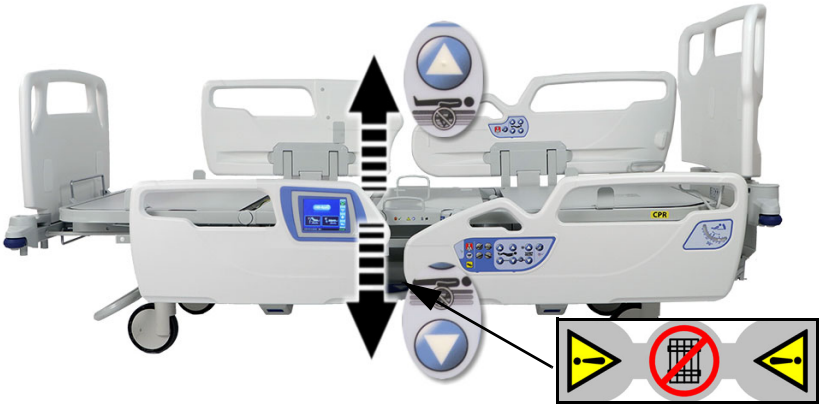
The control pendant can be stored on the siderail.

If the patient-pendant is positioned so as to stretch the coil cord and it is released, it retracts and can impact someone.

Bilateral HiLow pedal with caregiver mode*

The HiLow pedals are positioned on each side on the chassis. They are to be used by caregivers.

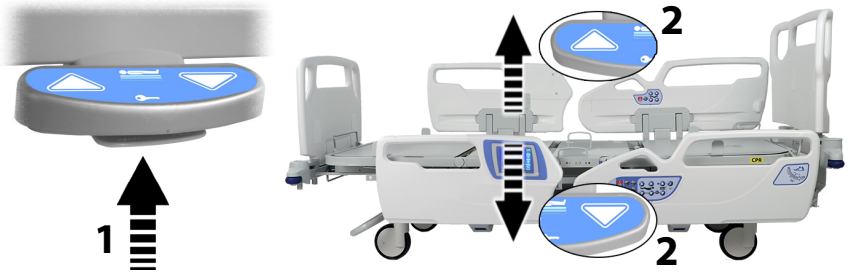
Raising/lowering the sleep surface



Before using this function, check that no obstacles (e.g., objects, accessories, power cables) or persons (especially children) are under the sleep surface and that none of the patient's limbs protrude beyond the edges of the sleep surface. An intermittent beep sounds when one of the bed's movements is hindered.

When descending to the low position, make sure that:
- the drainage devices do not come into contact with the floor.
- the elevation arms do not hit the chassis of the Viking XL patient hoist if the bed is equipped with 125 mm diameter casters*.

Use the HiLow feature of the sleep surface to adjust the bed to the required height when the patient must be moved.



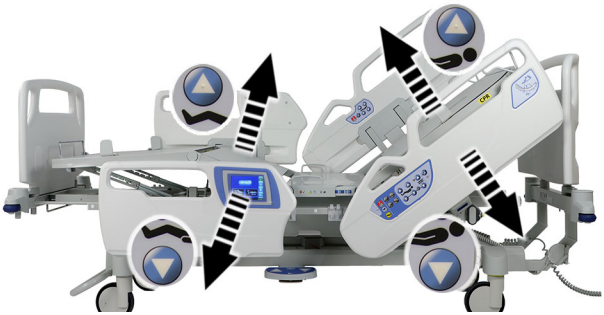
ⓘ *The HiLow lock out on the* controls built into the half-siderails *does not lock out the HiLow pedal, which remains operational. By default, the pedal is locked to avoid accidental movement. It is necessary to unlock the HiLow pedal before use.*

ⓘ *After about one minute, caregiver mode is deactivated automatically.*

Raising/lowering the head and thigh sections

ⓘ *To move the head section only, disable the adjustable thigh section function on controls built into the half-siderails.*

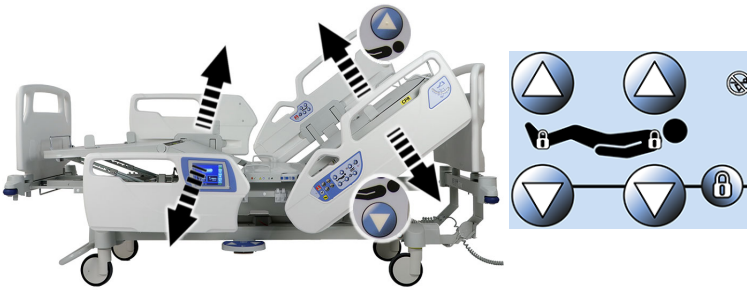
⚠ ***Before adjusting the head section, check that there are no obstacles preventing the section from being lowered or moving (e.g., limbs, electric cables, foreign bodies or accessories). An intermittent beep sounds when one of the bed's movements is hindered.***



ⓘ *When the thigh section is fully raised, the foot section is inclined at an angle of approximately -3° from the sleep surface.*

Electric AutoContour™

The AutoContour™ is available when both the adjustable head section and the adjustable thigh section functions are enabled..



The AutoContour™ simultaneously raises the head section and the thigh section. This function prevents patients from slipping.

Trendelenburg/Reverse Trendelenburg

The sleep surface can be titled in two ways:

- Trendelenburg (the head end is lowered),
- Reverse Trendelenburg (foot end in low position).

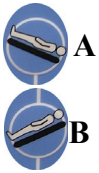
The complete Trendelenburg function is available at all heights of the sleep surface.

A spirit level on the foot half-siderail can be used to check that the sleep surface is horizontal.

Before using this function, check that:

- ***the bed frame extension is securely locked in one of the notches and that nothing (e.g., objects, accessories, power cables, tubes) or persons (especially children) are under the sleep surface.***
- ***the patient's limbs are within the sleep surface,***
- ***there is enough space between the head of the bed and the partition, especially for Trendelenburg,***
- ***no accessories (IV pole in particular) may come into contact with the fittings,***
- ***check that the drainage devices do not come into contact with the floor.***

Electrical Trendelenburg/Reverse Trendelenburg



The electrical Trendelenburg / Reverse Trendelenburg is operated using the caregiver controls on the half-siderail.

ⓘ *Before using this function, check that the HiLow is enabled.*

To tilt the sleep surface:

- press the required function (A) or (B) at the same time,
- release the button when the required angle is attained.

ⓘ *This function can be used without a mains power supply thanks to the battery.*

Boost™ patient position mechanism

ⓘ *Before using this function, check that the HiLow is enabled.*

This function puts the sleep surface sections in the flat position and inclines it into the Trendelenburg position to 7°. It also activates the P-Max mode of the combined mattress*.

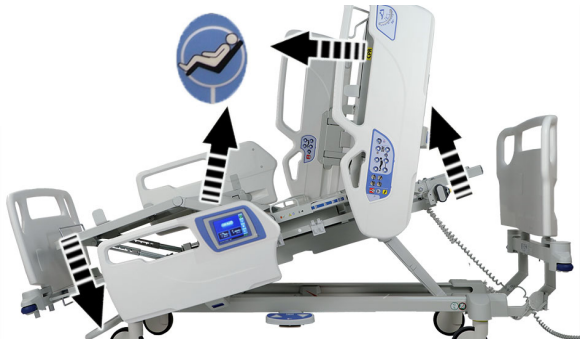
To activate this function, press and hold the Boost™ button and release when at the required angle.

ⓘ *This function can be used without a mains power supply thanks to the battery.*

ⓘ *Briefly pressing the Boost™ button activates the P-Max function of the mattress (see "Maximum inflation mode (P-Max)" page 50).*

Chair position

The chair position gradually returns the patient to the vertical position without having to leave the bed.



Place sleep surface flat

This function flattens the sleep surface and descends the bed into the lowered position by pressing a single button.

Bed exit aid

This function makes it easier for the patient to get out of the bed by raising the head section to up to 45°, flattening the thigh section and lowering the sleep surface to the required height by pressing a single button.

It is necessary to adjust the sleeping surface height to the patient's morphology.

Mechanical adjustable foot section

The foot section can be placed in four different positions and is held in place by mechanical notches.

To raise the foot section:

To lower the foot section:

Patient helpers**

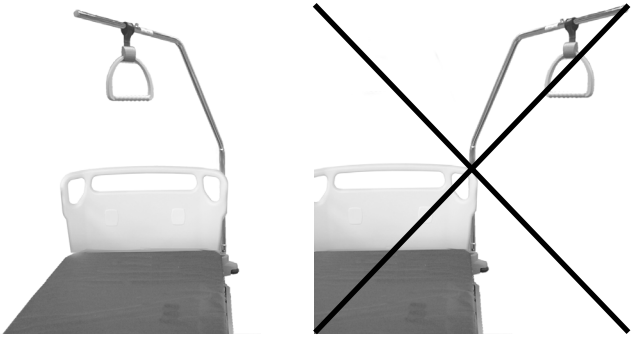
This accessory must only be fitted at the head of the bed.

Fixed patient helper - AD810A

Safe working load: 75 kg[1]

Do not position the patient helper at the outside of the bed. See incorrect position shown below.

The patient helper can be fitted into either of the two square sockets at the head of the bed.



Correct position Incorrect position

1. The safe working load specifications for normal use allow for a substantial safety margin.

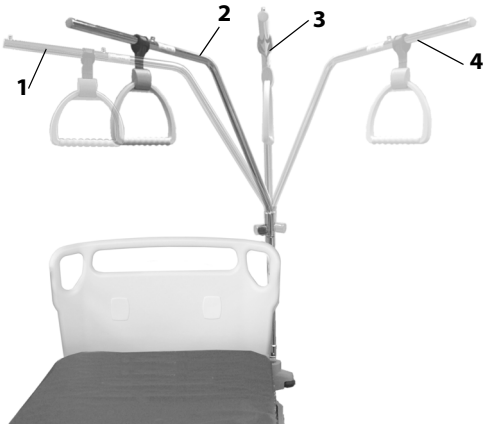
Adjustable patient helper - AD811A

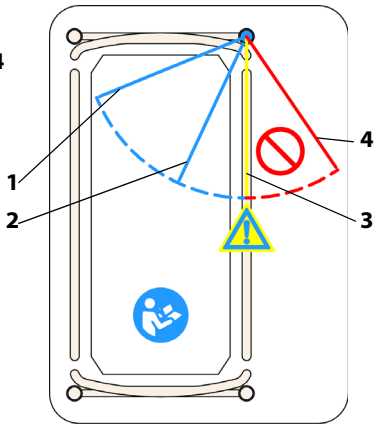
Safe working load: 75 kg[1]

The adjustable patient helper can be placed in three positions.

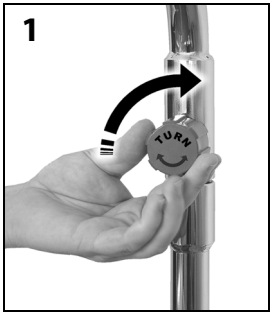
Patient Helper Positioning

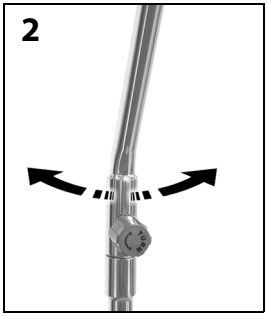
The patient helper in the patient transfer position is designed to help the patient lift some of his/her weight so as to assist the nursing staff with their work. This position is not designed to allow patients to transfer themselves alone. Failure to do so could result in material damage or injury.

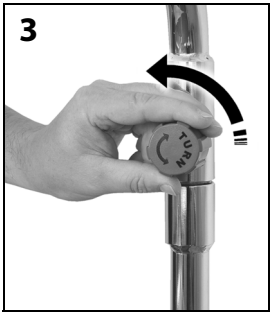




- position 1 (blue): park position,
- position 2 (blue): usual position for use,
- position 3 (yellow): transfer help position,
- position 4 (red): "**incorrect**", risk of bed tipping.





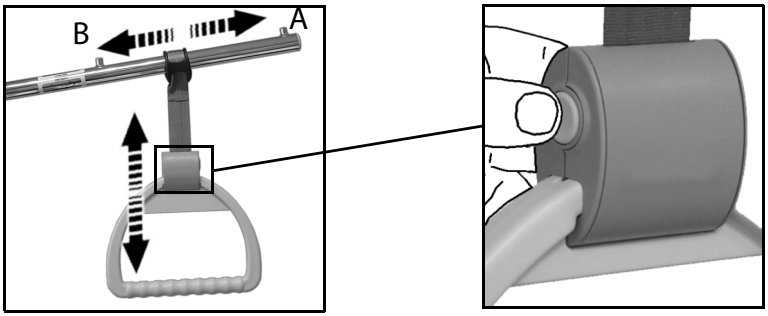


1. *The safe working load specifications for normal use allow for a substantial safety margin.*

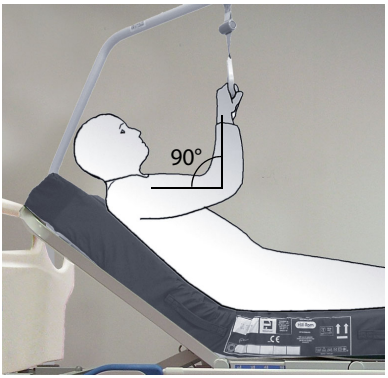
Patient helper handle

The patient helper handle must be positioned between lugs A and B to avoid any danger of slippage.

The patient handle on the patient helper can be adjusted to the patient.



Adjust the height of the handle until there is a right angle at the elbow. It is easier for the patient to change position in the bed, making for greater comfort and independence.

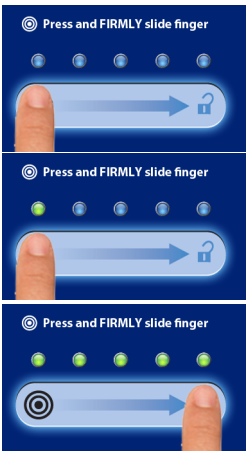


Place the patient handle on the patient helper arm when not in use, in order to eliminate any obstruction.

If the bed is equipped with both an adjustable patient helper (AD811A) and an IV Pole (AD298A or AD299A), do not use the patient helper "tuck-away" position as this may interfere with the IV pole.

Graphical Caregiver Interface (GCI)™ controls

The GCI is on the foot siderail.



To activate the GCI:

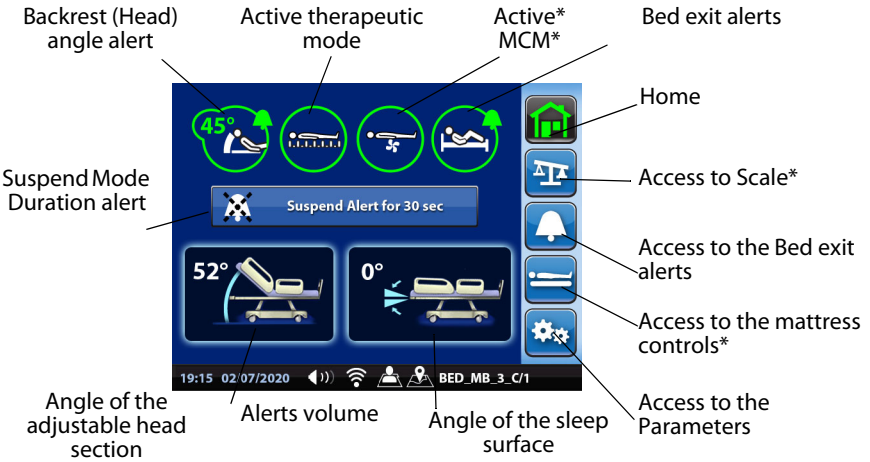
- Touch the screen.
- To release, press the round symbol until the green light above it comes on, then PRESS FIRMLY and slide your finger to the right so that the remaining LEDs come on.

When the GCI is unlocked and the screen is not touched for 1 minute, it automatically returns to the home screen. If the screen remains untouched for a further 1 minute, the locked screen appears. If it is not touched for another 8 minutes, the screen switches itself off.

The screen is deactivated if the bed switches to battery mode.

Home screen

Description



Bed exit alerts*

Position mode: The "Patient Position" mode alert is activated when the patient starts to move.

Exiting mode: The "Exiting" mode alert is activated when the patient moves away from the center of the bed to try to get out.

Out of Bed mode: This mode must be used when the caregivers want to allow the patient to move freely in the bed. The "Out of bed" mode alert is activated when the patient leaves the bed.

This information can be sent to the duty nurse if the bed is connected to a hospital network with a compatible information system.(see "Sending bed exit alerts" page 40)*

The patient position monitor system does not remove the need to secure the patient in the bed (see "Risk prevention" page 5). Function sensitivity may be impacted if accessories are added or if the Trendelenburg/Reverse Trendelenburg angle is ±8°.

The bed exit alerts are no longer operational when the bed switches to battery mode.

NOTE:

If a load weighing more than 9 kg is added or removed, it is necessary to proceed with an initialization.

Initializing the Bed Exit alerts system

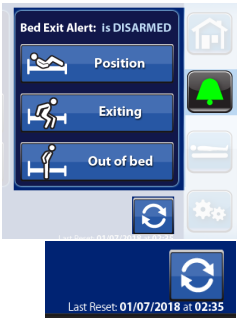
If the bed is not equipped with a weigh system, it is necessary to proceed with an "Initialization".

Preparing the bed for initialization

Take the same preliminary precautions as for a reset/tare operation of a weigh system (see "Preparing the bed for a reset/tare operation* or initializing the Bed Exit alerts system*" page 44).

Initializing

1. Press the **Alerts** control on the GCI.
2. Press .
3. Follow the instructions.
   - If a message appears on the GCI when initializing, adjust the bed accordingly.
4. Initialization complete.



The screen also shows the date and time of the last initialization.

NOTE:

If a load weighing more than 9 kg is added or removed, it is necessary to proceed with an initialization.

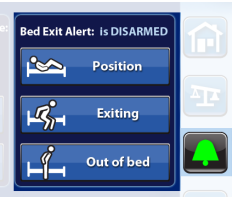
To activate the Bed exit alert detection:

Activating the bed exit detection to a given degree of sensitivity is subject to the following pre-conditions that guarantee effective patient detection.

Pre-conditions for activation

- The system has been initialized (see "Initializing the Bed Exit alerts system" page 39).
- The patient is in the center of the bed and aligned with the hip position markers.

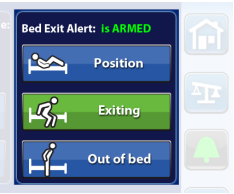
1. Press **Alerts** on the GCI.
2. Wait for the selection screen to open. Activation is confirmed by a beep.



NOTE:

If the pre-conditions for activation are not met, an error message appears. In this case, follow the instructions and repeat the procedure.

3. Select one or more modes from:
   - **Position**
   - **Exiting**
   - **Out of Bed**



NOTE:

Only one bed exit mode can be activated at a time.

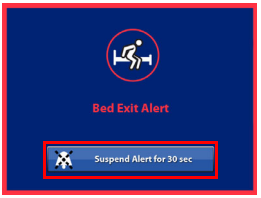
4. The detection activation icon appears on the home screen.

To deactivate the Bed exit alert detection

1. Press **Alerts** on the GCI.
2. Press **Exiting** detection active.
3. **Yes**. This deactivates the bed exit detection.

When an alert sounds

When the bed exit detection is on and it detects an alert condition, an alert signal sounds, an alert message appears on the GCI and the night light comes on.



ⓘ *Press the appropriate button to switch off the night light (see "Night light" page 71).*

Press **Suspend Alert for 30 sec** on the touch screen, then select the alert deactivation mode (see "Selecting alert suspension mode" page 42).

Sending bed exit alerts*

ⓘ *Check that the bed is physically connected to the hospital's communications system by the cable.*

- When a bed exit alert is raised, a signal is automatically sent to the duty nurse.
- If the bed has a "Nurse call" function, the light under the Nurse call symbol flashes for 1 minute. If the system acknowledges reception of the signal during this time, the light turns green. Otherwise, it goes out automatically.

- The light also goes out if the caregivers confirm reception of the alert.

ⓘ *If the bed detects a connection fault (cable not connected or fault), a discontinuous signal sounds when the bed exit alert is raised.*

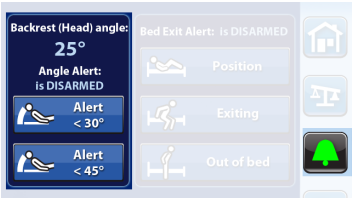
Backrest (Head) angle alert

The **Backrest (Head) angle** alert allows the caregiver to program a sound alert when the angle of the head section is less than 30° or 45°. A message appears on the GCI when the head section descends below the selected angle.

This information can be sent to the duty nurse by a compatible Wi-Fi system.

The adjustable head section angle alert is longer operational when the bed switches to battery mode.

To activate this function



1. Put the adjustable head section in the required position, at an angle greater than 30° or 45°.
2. Press **Alerts** on the GCI.
3. Set the **Backrest (Head) angle** detection to the required angle: less than 30° or 45°.

To deactivate the Backrest (Head) angle detection

1. Press **Alerts** on the GCI.
2. Press detection active.
3. **Yes**. The **Backrest (Head) angle** detection is deactivated.

When an alert sounds

When the adjustable head section detection is on and it detects an alert condition, an alert signal sounds, an alert message appears on the GCI and the night light comes on.

Press the appropriate button to switch off the night light (see "Night light" page 71).

Raise the section to an angle greater than 30° or 45°.

or,

Press **Suspend Alert for 30 sec** on the touch screen, then select the alert deactivation mode (see "Selecting alert suspension mode" page 42).

Alert suspension mode

When a detection function is activated, it can be suspended using the **Suspend Alert for 30 sec** command on the home screen, then suspended again for 5 to 10 minutes, without having to deactivate the detection function.

To activate the alert suspension mode

Select **Suspend Alert for 30 sec** on the touch screen.

The patient can now move and follow procedures without any alerts sounding.

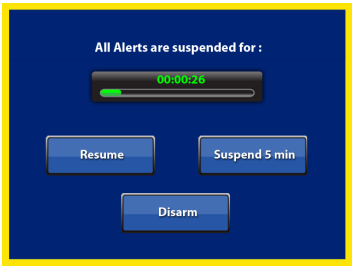
Selecting alert suspension mode

A screen opens where you can select: **Resume**, **Suspend 5 min** or **Suspend 10 min** and **Disarm**. If nothing is selected on this screen, the systems waits for 30 seconds, then attempts to activate itself in the previously activated detection mode.

ⓘ *This operation is performed when a patient is present on the bed.*

If the head section is not raised to the required angle, an alert sounds.

If the bed does not detect a patient, it switches to "Awaiting patient" mode.



- **Suspend 5 min** or **Suspend 10 min**: if the duration of the suspension is too short, suspend for a further 5 to 10 minutes before the bed attempts to switch the detection function on again. If the bed does not detect a patient, it switches to "Awaiting patient" mode. If the head section is not raised to the required angle, an alert sounds. Maintenance staff can adjust the 5 or 10 minute settings *(see "Setting the length of the alert suspension mode" page 53)*.
- **Resume**: switches the detection back on immediately.
- **Disarm**: switches the detection off.

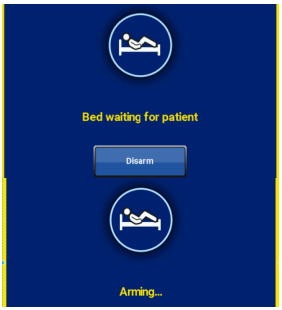
ⓘ *You can change the volume of the alert by replacing the default value with a higher or a lower volume (three levels available) (see "Setting the alerts volume" page 53).*

"Awaiting patient" mode

In this mode, the **Bed exit alerts (Bed exit alerts)** are deactivated until the patient returns.

ⓘ *IThe monitoring system can be completely deactivated by pressing* **Disarm**.

When the patient returns to the bed, the system reactivates the alerts.

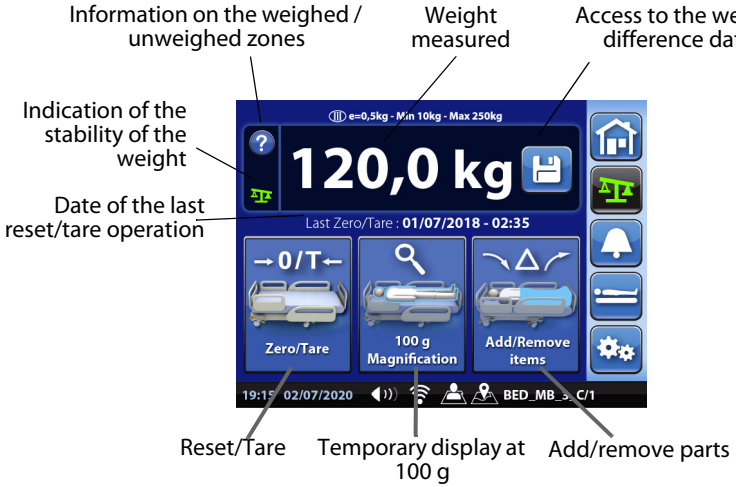


NOTE:
If the system is unable to reactivate itself after a given length of time, the Bed exit alert sounds.

Scale (weigh system)*

In the Scales screen of the GCI, you can reset the scales, weigh in a range from 10 to 250 kg with a resolution of 500 g in all positions authorized by the system (+/-2° from the horizontal), increase the resolution to 100 g temporarily and display a difference in weight in comparison with an initial weight and the patient's BMI.

Description of the scale screen



New patient

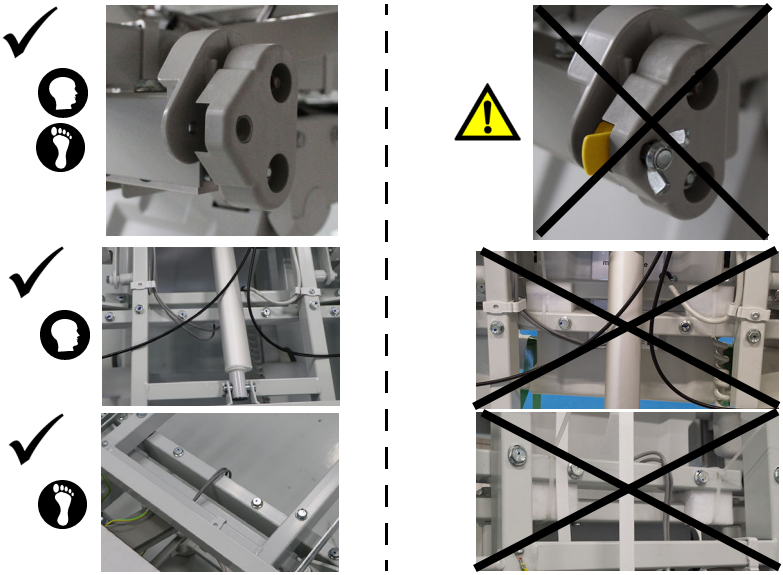
Before installing a new patient, it is necessary to erase the preceding patient's data.

1. Press **Parameters** on the CGI.
2. Press **New Patient**.

ⓘ *This function deletes the history, deactivates the various alerts and performs a reset/tare operation.*

Preparing the bed for a reset/tare operation* or initializing the Bed Exit alerts system*

1. Ensure the bed is on a flat surface and that the frame is horizontal (+/-2°).
2. Check that the transport chock protecting the weigh system have been removed from their housing.



Hill-Rom recommend to keep the transport chocks. in order to protect the weigh system, they can be re-used in case of bed transfer to another place or building.

3. Install the mattress, cushions, sheets and blankets, and all other accessories that must remain on the bed.

The weight of these additional articles must not exceed 65 kg or 45 kg, depending on the destination of the product and the maximum patient weight (see "Technical specifications" page 11). No more than 39 kg must be added at a time.

4. Check that neither the mattress nor any accessories are touching the fixed parts of the bed (and in particular the head section) and that no traction is applied to the parts installed above and below the sleep surface (e.g., power cable and air mattress pipes). If necessary, remove the headboard.

Headboard

Correct position

Incorrect position

Zero/Tare

1. Press **Scale** on the GCI.
2. Press **Zero/Tare**.
3. Follow the instructions.
   - If a message appears on the GCI when resetting, adjust the bed accordingly.

4. Reset/tare operation complete:
   - Deletes the patient weight difference data and resets the weigh system.
   - The screen shows 0.0 kg and the >0< light comes on to show the accuracy of the reset/tare operation.

Weigh the patient

The weigh system is used to obtain the weight and BMI of the patient. This information must never be used alone for therapeutic purposes or to monitor the patient's vital parameters.

1. Make sure that the patient is lying in the center of the bed.
2. Press **Scale** on the GCI.

Out of respect for the patient, the display of the weight disappears after 30 seconds. But it can be displayed permanently (see "Setting the display/mask patient weight options" page 54).

This information can be sent to the duty nurse by a compatible Wi-Fi system.

Display a weight variance and the patient's BMI

It is necessary to record the patient's height in order to monitor the patient's BMI.

1. Press **Weight variance**.

2. Press the patient size control and save the height in cm.

3. The screen shows three values:
   - **Current Weight**
   - **Saved Weight**
   - **Weight variance**, **Size** and **BMI**
   -

4. Press **Saving Current Weight** and follow the instructions to save the weight in the history.
5. Check the information and press **Save** to confirm.

6. Once saved, the weight appears in the **Saved Weight** field.

In the course of certain specific care operations (e.g., dialysis), the difference in weight can be displayed permanently (see "Setting the display/mask patient weight options" page 54).

Display the weight to within 100 g

1. Press **Scale** on the GCI.
2. Press the command **100g Magnification**
3. The weight is displayed to within 100 g for 5 seconds.

Add/remove parts on the bed

Caregivers can use this function to change the parts on the bed without changing the weight reading on display.

If a patient is **not** on the bed, use the Zero/Tare function after changing the parts.

The function stores the patient's weight in memory while changing items on the bed.

1. Press **Scale** on the home screen of the GCI.
2. Press **Add/Remove Items**. Follow the instructions.

The list of items added or removed, displayed close to the bed, may be useful later on.

Weighed/unweighed parts

The weigh system is very sensitive. The weight reading is more precise if the part of the bed that is weighed (sleep surface, siderails, footboard – see weighed parts below) does not come into contact with the fixed part of the bed (headboard, chassis, power supply cables and tubes of the various possible accessories – see unweighed parts below). Even if an object is in slight contact with the bed, the value on the screen will be inaccurate. If necessary, remove the headboard during scale.

The screen shows the zone and the parts of the bed that are included when weighing in green.

combined Accella™ Therapy mattress*

The Accella™ Therapy is a therapeutic mattress. It has two operating modes: continuous low pressure (CLP) and alternating low pressure (ALP), with permanent regulation by the I-mmersion™ sensor in both modes.

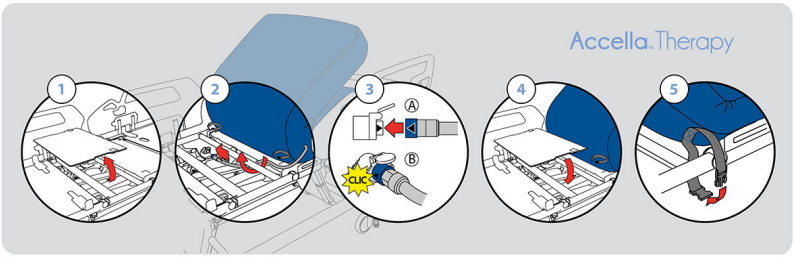
This device is intended for patients weighing between 40 and 185-215 kg, depending on the environment, and offers therapeutic benefits up to 160 kg.

This paragraph describes the installation and use of the Hill-Rom® 900 Accella™ combined mattress using the GCI™ interface. For additional and specific information about the mattress, refer to the mattress Instructions for Use.

Description of the mattress screen (default mode)

Installing the mattress

1. Disconnect the bed power cord from the wall outlet.
2. Take the mattress out of its original packaging or transport bag and place it at the head of the bed.
3. Undo the retaining strap and unroll the mattress.
4. Fold in two on the head side.
5. Remove the hard surface of the thigh section.
6. Install the cable as shown on the label.

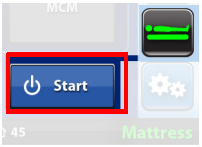


7. Connect the plug to the bed connector (it clicks into place).
8. Install the hard surface of the thigh section.
9. Attach the mattress to the middle section of the frame with the straps.
10. Adjust the length of the straps.
11. Unfold the mattress.
12. Fold back the folding mattress clamp (see "Folding mattress clamp" page 22)
13. Open the cover at the head end and check that the deflation plug is screwed tight.
14. Connect the power cord to the wall outlet.

Make sure that the device is correctly installed and attached, well centered on the sleep surface and securely fixed to the board at the foot end to avoid the formation of entrapment zones and check the space at the head of the bed (see "Headboard" page 45).

Activating the mattress

1. Make sure that the mattress is properly installed *(see "Installing the mattress" page 48)*.
2. Press **Mattress** on the CGI.
3. Press **Start**.
4. The mattress switches to initialization mode. A beep sounds after 20 minutes, indicating that the mattress is operational.



5. The status of the mattress switches to **ON** in the default mode.The **ALP** and **MCM** are active.

Therapeutic mode

Continuous low pressure (CLP) mode

Press **CLP** to select this mode.

The corresponding control turns green.

The patient is supported at an optimal low pressure controlled by the I-mmersion™ sensor.

Alternating low pressure (ALP) mode

Press **ALP** to select this mode..

The corresponding control turns green.

The patient is supported at an optimal low pressure controlled by the I-mmersion™ sensor. The cushions deflate alternately in a complete cycle lasting about 10 minutes.

The therapeutic modes are no longer operational when the bed switches to battery mode.

Maximum inflation mode (P-Max)

Press **P-Max** on the GCI, or briefly press the Boost™ button on the caregiver keypad to select this mode.

The corresponding control turns green.

After 20 minutes, the system automatically returns to the initial therapeutic mode in order to reduce the risks incurred in the non-therapeutic mode.

After activating the P-Max mode, it is possible to return to the previously selected therapeutic mode by pressing **P-Max, ALP** ou **CLP**.

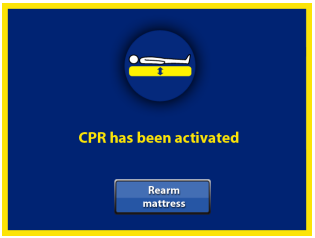
If the bed switches to battery mode when the mattress is in P-Max mode, the latter remains active permanently. In this case, it is necessary to connect the bed to the mains power supply to return the mattress to a therapeutic mode. Remaining in P-Max mode for a lengthy period can result in discomfort for the patient.

MCM™*

The microclimate management system is activated automatically when the Accella™ Therapy system is switched on. The corresponding control turns green.

It can be deactivated by pressing **MCM**.

CPR



Pressing the CPR button on the caregiver keypads or pressing the handle on the adjustable head section activates the CPR function.

The mattress deflates in approximately 30 seconds.

Press **Rearm Matress** to restore normal operation of the mattress.

The mattress CPR function only works if the mattress is active and its battery is fully charged (it takes 24 hours to charge the battery).

Transport mode

The mattress switches to transport mode (battery mode) when the bed is moved.

If the bed switches to battery mode:

- ***The therapeutic modes are no longer operational.***
- ***If the mattress is in P-Max mode, the latter remains permanently active.***
- ***A backup battery maintains the CPR function for 2 hours. When this battery is low, the bed must be connected to the mains power supply for at least 24 hours to fully recharge the battery. Otherwise, the CPR function cannot be guaranteed.***
- ***A beep sounds regularly to indicate that modes are inactive.***
- ***If a patient whose weight is close to the SWL exits the bed, the internal pressure of the mattress may suddenly drop, causing a low safety pressure to error to occur. In this case, reconnect to the main power supply to reset the system.***

Deflating the mattress

The mattress can be temporarily deflated without stopping it.

1. Press **Mattress** on the CGI.
2. Press **Deflate**.

3. The corresponding control turns green.
4. To switch off the deflation mode, press **Deflate** or the **Boost™** button.
5. The mattress switches to initialization mode.

NOTE:
After 20 minutes, the system automatically returns to the initial therapeutic mode in order to reduce the risks incurred in the non-therapeutic mode.

Stopping the mattress

To stop the mattress:

1. Press **Mattress**  du GCI.
2. Press **Stop**.
3. The mattress deflates in about 1 minute.
4. A sound signal indicates that the mattress can be disconnected.
5. Confirm that the mattress has been stopped.

NOTE:

If the mattress is disconnected without properly following the procedure to stop the mattress, it switches to fault mode.

Disconnecting and storing the mattress

1. Make sure that the mattress has been stopped properly (see "Stopping the mattress" page 52).
2. Disconnect the bed power cord from the wall outlet.
3. Open the head end zip fastener. Unscrew the deflation plug.
4. Undo the straps attaching the mattress to the bed frame.
5. Fold in two at the head end.
6. Remove the hard surface of the thigh section.
7. Disconnect the plug from the bed connector.
8. Remove the cable.
9. Install the hard surface of the thigh section.
10. Unfold the mattress.
11. Starting at the foot end of the bed, roll up the mattress slowly to allow any remaining air to be expelled.
12. Close the deflation plug and close the zip fastener.
13. Put the retaining strap back in place.
14. Place the rolled up mattress in a plastic bag.
15. Store the mattress in its original packaging or in a transport bag.

Settings

Choosing the language

Your bed is configured for the destination country. In this menu, you can set the language of the GCI.

1. Press **Parameters** on the GCI.
2. Press **Settings**.
3. Press **Language** and select the language.
4. Press **Close** to confirm.

Setting the date and time

In this menu, you can change the format of the date and time displayed on the bed. You can also set the time, for example when the clocks go forwards or back (DST (Daylight Saving Time).

1. Press **Parameters** on the GCI.
2. Press **Settings**.
3. Press **Date / Time.**
4. Select the date format and use the arrows to set the time.
5. Press **Save** to confirm.

Setting the alerts volume

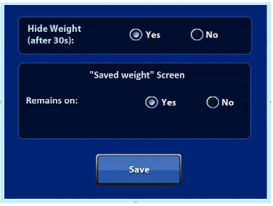
1. Press **Parameters** on the GCI.
2. Press **Settings**.
3. Press **Volume.**
4. Use the + and - buttons to adjust the volume.
5. Press **Save** to confirm.

Setting the length of the alert suspension mode

1. Press **Parameters** on the GCI.
2. Press **Settings**.
3. Press **Suspend Mode Duration.**
4. Select the duration.
5. Press **Save** to confirm.

Setting the display/mask patient weight options

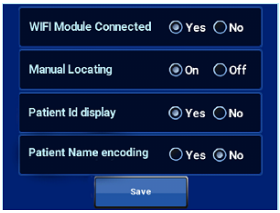
1. Press **Parameters** on the GCI.
2. Press **Settings**.
3. Press **Weight Display.**
4. Select one of the settings.
5. Press **Save** to confirm.



Setting the Wi-Fi options

This menu is used to activate or deactivate the Wi-Fi, manual locating and patient ID display.

1. Press **Parameters** on the GCI.
2. Press **Technician Access**.
3. Enter the code 9004 and confirm by pressing **OK**.
4. Press **Wifi (Wifi)**.
5. Choose the functions to be activated or deactivated by selecting Yes or No.
6. Press **Save** to confirm your choices.



NOTE:

The "Manual Locating" and "Patient Id Display" functions are only valid for the Hillrom™ Digital Health Gateway.

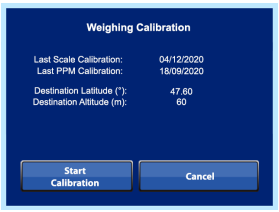
NOTE:

The Manual Locating function must be Off in order to perform automatic locating.

Latitude/altitude information

This menu is used to access the latitude and altitude information.

1. Press **Parameters** on the GCI.
2. Press **Technician Access**.
3. Enter the code 9004 and confirm by pressing **OK**.
4. Press **Weight Calibration**.
5. Press **Cancel**.



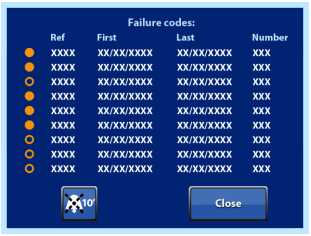
Failure Codes

If there is a fault with a function of the bed or mattress* a failure code is generated. A list of these codes and the history is available on the GCI screen.

When a fault occurs, the associated failure code appears on the screen.

To view the list of codes:

1. Press **Parameters** on the GCI.
2. Press **Failure Codes**.
3. Wait for the codes to appear, then press the **Close** button.
4. The list of codes and the history appear on the GCI screen.



NOTE:
If the fault is with an Accella™ Therapy mattress, there is a button to pause the alert for 10 minutes on the failure codes screen.

A list of codes, their descriptions and associated solutions can be found in the service manual of the bed or mattress. 1XXX codes relate to the mattress.

Wi-Fi connection

When the bed is connected and located, it sends the data by Wi-Fi.

List of information that can be sent by Wi-Fi

The information retrieved depends on the hospital's communications system. This list is subject to change according to the version of the bed.

- Bed identification
- Brake bar position: brake applied / not applied
- Bed in low position indicator
- Half-siderail locked / unlocked
- Patient's presence in the bed[ab]
- Head section angle
- Adjustable head section angle alert
- Bed exit alerts
- Patient weight, with the date and time
- Error codes
- Angle of the sleep surface[b]
- Function lockout status[b]
- CPR[b] status
- Scales reset notification[b]
- Last scales function used[b]
- Bed battery charge level[b]

a. by SmartSync™.
b. by Hillrom™ Digital Health Gateway.

With a combined mattress

- Mattress battery charge level[a]
- ON/OFF mode[a]
- Current therapeutic mode[a]
- MCM mode status[a]
- P-Max mode status[a]
- Deflate mode status[a]
- Mattress error codes[a]

a. by Hillrom™ Digital Health Gateway

NOTE:

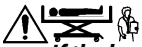
Hill-Rom cannot guarantee the information sent over Wi-Fi. Medical decisions must be made on the basis of the information and alerts shown on the bed by the built-in equipment.

NOTE:

If the bed is moved out of the room (battery mode), the Wi-Fi is deactivated and the bed does not send any more information to the facility's communications system.

Meaning of the Wi-Fi connection information on the GCI

	Wi-Fi OFF
	Wi-Fi ON with a weak Wi-Fi signal
	Wi-Fi ON with an intermediate Wi-Fi signal
	Wi-Fi ON with a strong Wi-Fi signal
	Bed located
	Bed located and patient identified



If the bed switches to battery mode, it is no longer assigned, but remains paired for 3 minutes (SmartCare™) or 1 minute (Hillrom™ Digital Health Gateway). After this time, it is necessary to proceed with a new assignment.

NOTE:

The bed is located manually with the Hillrom™ Digital Health Gateway.

If the Wi-Fi function was not activated on first use of the bed, connection may not be possible. In this case, contact the supplier of the communications system to solve the problem.

SmartCare™ system*

The SmartCare™ system (MediaScreen Solution powered by Télécom Santé) sends informations to caregivers (see “List of information that can be sent by Wi-Fi” page 55). Refer to the SmartCare™ system Instructions for Use for more detailed information about the use of this system.

Features	Value
Frequency bands in which the radio equipment operates	2,4 GHz canal 1 to 13
Maximum radio-frequency power transmitted in the frequency bands in which the radio equipment operates	<13 dBm

1. Press **Parameters** on the GCI.
2. Press **Wifi**. 

3. Select the network.
4. Press  to activate the Wi-Fi connection.
5. The Wi-Fi connection is active 

6. Follow the information system supplier’s instructions to pair and couple the bed.

NaviCare® system*

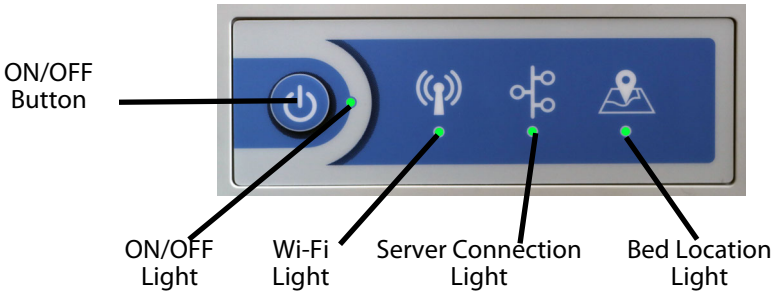
NaviCare® is a system used to connect and check Hillrom™ beds and mattresses. It sends alerts to caregivers. Refer to the NaviCare® system Instructions for Use for more detailed information about the use of this system.

SmartSync™* or Hillrom™ Digital Health Gateway

The Hill-Rom SmartSync™ connectivity system or the Hillrom™ Digital Health Gateway enable caregivers to receive information (see “List of information that can be sent by Wi-Fi” page 55). Refer to the SmartSync™ or Hillrom™ Digital Health Gateway user instructions for more detailed information about the use of this system.

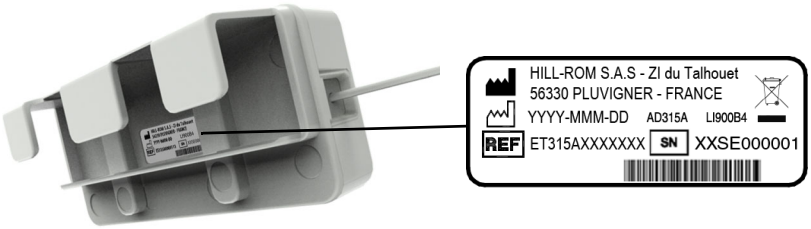
Features	Value	
Frequency bands in which the radio equipment operates	2,4 GHz	5 GHz
Maximum radio-frequency power transmitted in the frequency bands in which the radio equipment operates	<17 dBm	<20 dBm

Wi-Fi Connection Module (WCM) - AD315A**



Identification

To identify your MCW AD315A model, its serial number SN (XXSEXXXXXX) and its date of manufacture, refer to the identification label on the back of the module.



- REF: ET315AXXXXXXX; ET315 = Module WCM; A = Révision; XXXXXXX= a unique 7-figure numerical code according configuration.

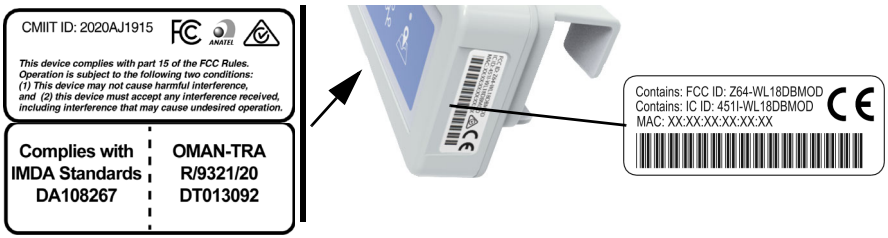
WCM module Positioning

On installation or after cleaning (if it has been removed), it is necessary to place the unit in the intended location and respecting cable routing:

- to maintain the Wi-Fi performance,
- to not disturb the scale operation,
- to avoid creating new entrapment areas.

Connection Information

This information can be found on the label on the side of the unit



This device complies with part 15 on the FCC Rules. operation is subject to the following two condition: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Installation

1. **Initialization**: When the device is connected to the interface board, the **ON/OFF** indicator light is red and the other indicator lights remain off for about 8 seconds
2. The **ON/OFF** indicator light is red and the other indicator lights flash red, then green, then go off, and so on, during the initialization cycle.
3. The bed recognizes the device. The **ON/OFF** indicator light is red and the other lights are off.
4. Connection to the wireless network: Press the **ON/OFF** button. The **ON/OFF** light turns green and the other lights are red.
5. Wi-Fi configuration of the MCW. It is necessary to update the Wi-Fi settings of the MCW in order to activate the device. Use the Hill-Rom LI900B4 Tool software to do this (see manual 209584).

ⓘ *Only qualified and authorized technician should perform this operation*

Use

WCM Startup

1. Press **ON/OFF** button.
2. The **ON/OFF** light turns green
3. Connecting to Wi-Fi facility network: The **Wi-Fi** light turns green.
4. Connecting to the server facility: The **Server Connection** light turns green.
5. Bed Location: The **Bed Location** light turns green.

NOTE:

The bed is located automatically if it is connected to SmartSync™, and manually if it is connected to the Hillrom™ Digital Health Gateway.

ⓘ *The bed can then transmit the information to the facility communication system and the bed is located and associated with the room.*

ⓘ *When moving the bed outside the room (battery mode), the WCM will turn off.*

ⓘ *After reconnecting the bed to the mains, make sure that all lights are green. If location light remains red, check that the room is equipped with a tracking system and is operational.*

The Wi-Fi system does not replace the visual and audible alerts generated by the bed. Caregivers should use these local alerts and bed information to make a decision.

Stopping the WCM

1. Press **ON/OFF** button.
2. The **ON/OFF** light is red and the other lights are off.

Locating the bed manually with the GCI™

Wi-Fi status

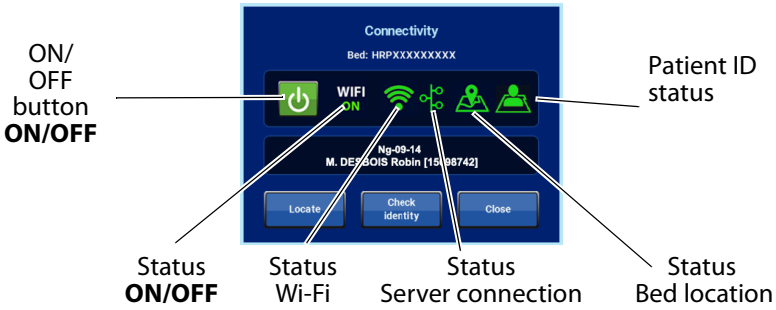
The status of the Wi-Fi connection is displayed at the bottom of the various screens of the GCI™. For more details see “Meaning of the Wi-Fi connection information on the GCI” page 3-56.

To go to the Wi-Fi menu:

- Press **Parameters** on the GCI.
- Then press **Connectivity**. 

or

- Press the status bar of the Wi-Fi and location information.



Bed-locating procedure

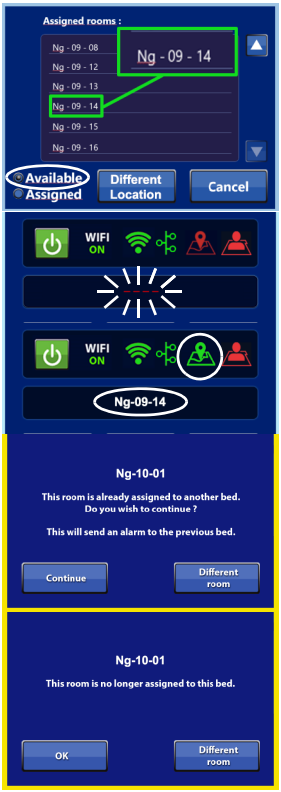
Check that the “manual location” mode is active (see “Setting the Wi-Fi options” page 54). Only applies to the Hillrom™ Digital Health Gateway.

If the architecture by floors used to record the location of the beds is modified to the extent that the room numbers are changed, then the beds linked to rooms will no longer be located. In this case, a new locating procedure is necessary.

1. The Wi-Fi is not active:
   a. Press the button  to switch on the Wi-Fi connection.
   b. The Wi-Fi connection is activated. 

, Wait for the connection with the server.

2. The Wi-Fi is active and connected to the server:
   a. Press **Locate.**
   b. Select the location of the room in the facility (up to four levels, including the room, e.g., building, ward, etc.).
   c. Select the room number (e.g., Ng-09-14) or another location by pressing **Different Location**.
   d. If the room is not already associated with an **Available** bed, the locating process looks for the selected room (flashes).
   e. The server has identified the room and the room number appears.
   f. If the room is already associated with an **Assigned** bed, a screen opens.
   g. Press **Continue** to confirm this choice and the assignment process starts.
   h. The system then informs the previously assigned bed.



Assignment of the patient ID to the bed.

Check that the "Patient Id Display" mode is active (see "Setting the Wi-Fi options" page 54). Only applies to the Hillrom™ Digital Health Gateway.

This procedure is only possible if the following three conditions are met: the bed has been located, the server proposes a patient name for this room and the patient is in the bed.

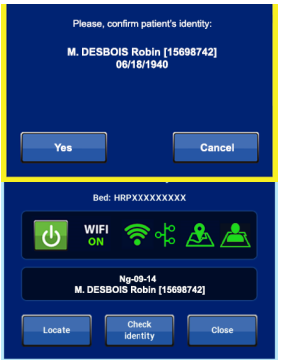
1. Press **Parameters** on the GCI.
   the press **Connectivity**
   or
   Press the status bar of the Wi-Fi and location information.

2. Press **Check identity**.

3. If the patient identity is correct, confirm by pressing **Yes.**

The date of birth is always displayed or is only provided when the identity is confirmed for the first time, if the "Patient Name Encoding" function is active (see "Setting the Wi-Fi options" page 54).

4. The patient identity is then associated with the bed.



NOTE:

The patient name / date of birth are automatically given unverified status if the bed is in battery mode, or if the patient has left the bed for more than 24 hours.

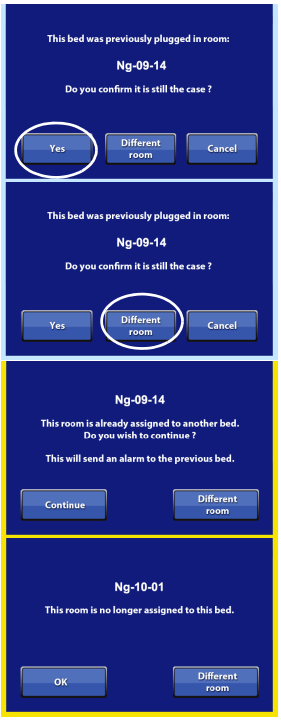
Moving the bed

Moving the bed out of the room for less than 1 minute

In this case, the bed is automatically reconnected in the same room.

Moving the bed out of the room for more than 1 minute

1. Returning to the same room:
   a. The screen on the bed shows the room where the bed was previously located.
   b. Press **Yes** to confirm.
1. Transferring to another room:
   a. The screen on the bed shows the room where the bed was previously located.
   b. Press **Different Room** to select another room.
   c. Select the new room from the list.
   d. If the room is already associated with an **Assigned** bed, a screen opens.
   e. Press **Continue** to confirm this choice and the assignment process starts.
   f. The system then informs the previously assigned bed.



Management of Wi-Fi connection profiles

1. Press **Parameters** on the GCI.
2. Press **Technician Access**.
3. Enter the code 9004 and confirm by pressing **OK**.
4. Press **Wifi Profile Management**.

5. Check that the Wi-Fi is active. Activate if necessary.

ⓘ *There are two configuration modes: Scan and Manual.*

Configuration in "Scan" mode

1. Press **Scan networks.**
2. Select a profile in the list
3. Enter the parameters.
   a. Name (Name)
   b. SSID
   c. Sec Type (Sec Type)
   d. Auth Type (Auth Type)
   e. Eap Type (Eap Type)
   f. User name (User name)
   g. Password (Password)

ⓘ *Information on the maximum number of characters:*

- Name: 32 characters.
- SSID: 32 characters.
- User Name: 32 characters.
- Password: 64 characters.

4. Press **Save** to save the settings

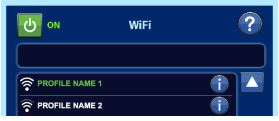
Configuration in “Manual” mode

1. Press **New Profile.**
2. Enter the parameters in the same way as for Scan mode.
3. Press **Save** to save the settings.

Activating a profile

1. Select a profile from the list (e.g., PROFILE NAME 1).

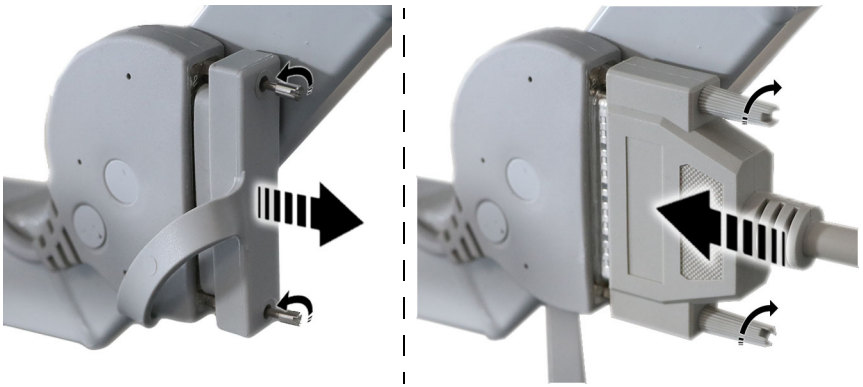
2. The profile turns green.



3. The profile is active.

4. Check the Wi-Fi address data (IP and MAC) by clicking on the information icon.

Communication cable



Siderails

The Hill-Rom® 900 Accella™ Bed is fitted with built-in half-siderails.

Always ensure that there are no obstacles (patient's limb, objects, accessories, etc.) before raising, lowering folding or unfolding a siderail. They are not designed to restrain or immobilize the patient. Restraining straps or other devices must not be fastened to the siderails.

Evaluate patients for entrapment risk according to protocol, and monitor patients appropriately. Ensure that all siderails are fully latched when in the raised position.

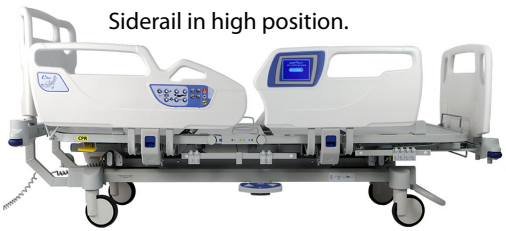
Siderails are intended to show patients where the edges of the bed are. They are not patient-restraining devices. When appropriate, Hill-Rom recommends that medical personnel determine the proper methods necessary to ensure a patient remains safely in bed without being constantly observed.

Do not place accessories (respiratory or other medical devices) on the siderail in a manner that could prevent the siderail from being lowered when emergency access to the patient is required. The siderails must be handled according to the instructions in the user manual.

When fully raised and locked, siderails aims to reduce the risk of falls.

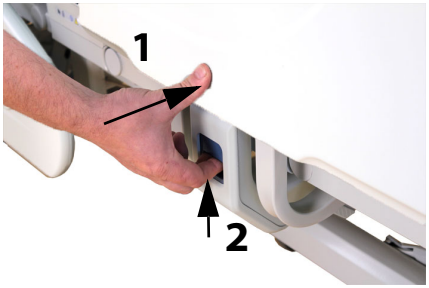
Siderail in low position.

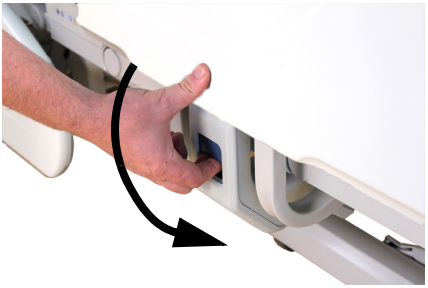
Siderail in high position.



Raising a half siderail

Lowering a half siderail



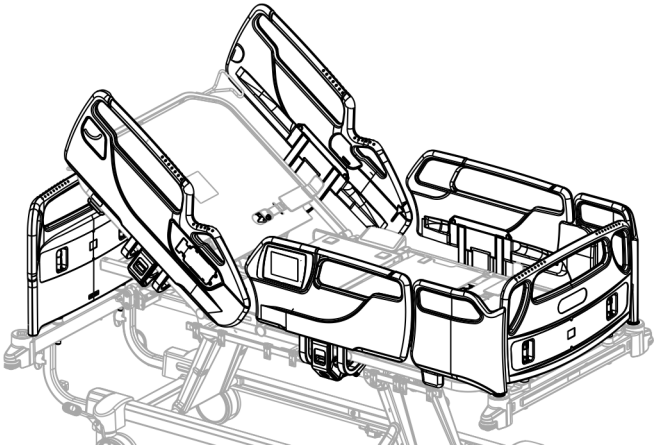


Half-siderail position indicator*

The half-siderails can be equipped with sensors to indicate the raised or lowered position.

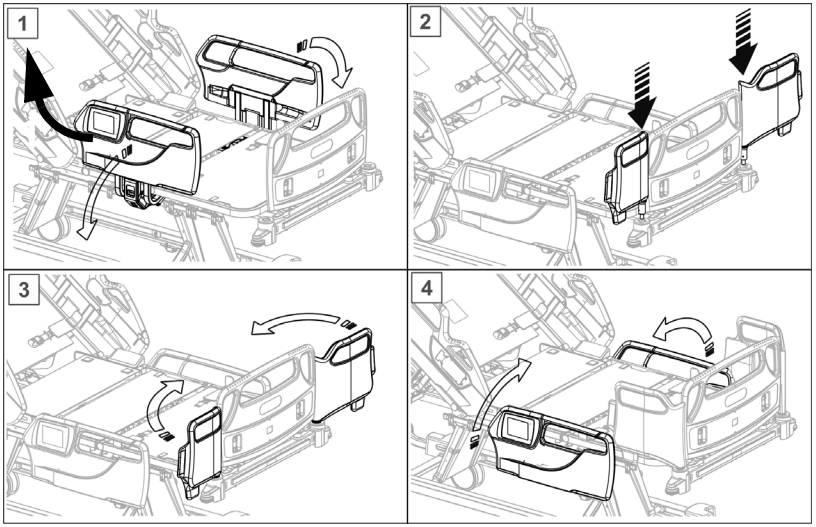
This information can be sent to the duty nurse if the bed is connected to a hospital network with a compatible information system.

Space filler panel (AD288A)**



In order to mitigate the risks incurred by patient egress through the gaps at the foot of the bed, between the half-siderails and the foot panel, Hill-Rom has developed a kit of two detachable panels, one for each side, designed to block this gap.

Installing the panels

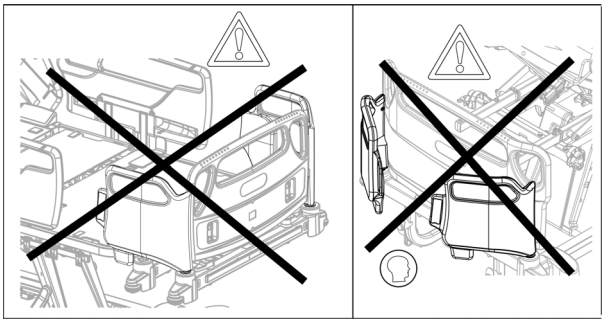


The panels are not designed to restrain or immobilize the patient in the bed.

Check that the panels are correctly installed.

The authorized medical personnel must consider the use of siderails depending on the state of health and behavior of the patient, according to a protocol that indicates in which situations and when the panels can be used.

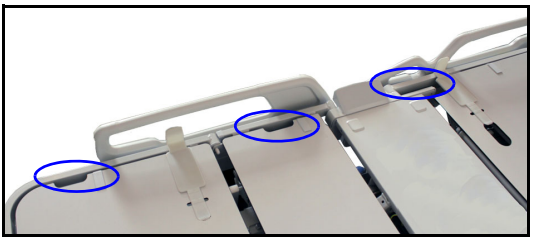
They are not egress handles. Do not lean on them.
Do not use when the extension is deployed.
Do not use with Afssaps half-siderails
Do not use with AD271A and AD272A siderails .
Do not store at the head of the bed and remove from the foot of the bed when not in use.

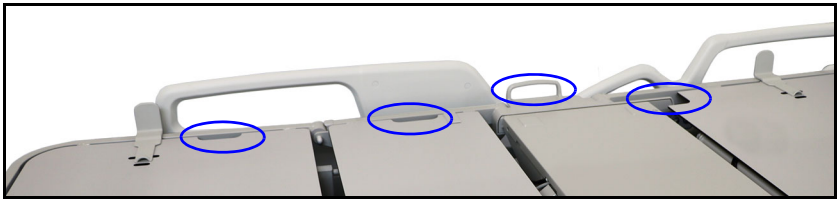


Fittings for the restraining strap handles[1]

Do not attach the restraining straps to any part of the bed (particularly the siderails) other than those provided for this purpose. When the patient is restrained by the straps, the electric functions must be locked out. When the patient is restrained with an abdominal strap, a system used to restrict the ankles must also be used.

Immobilize patients on the bed using the fittings provided..





The sleep surface has fittings on each side of the bed located on the head, thigh and foot sections.

Thread the straps through the bars.

1. Only to be used in compliance with local regulations.

Restraining devices must not be used as a replacement for the nursing care required by the patient. Even when correctly installed, physical restraining devices may become entangled and injure the patient, especially if the patient is agitated and confused. Whenever containment devices are used, the patient must be observed in accordance with legal requirements and protocol.

Restraining devices must be secured to the articulated sections of the bed using appropriate attachment points in order to avoid injury to the patient.

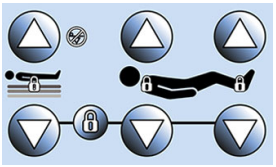
Ensure that the strap model used is suitable for the dimensions of the locations provided. Straps must not be able to slide to another location.

Never use restraining straps for the ankles when the bed is in the seated position or the foot section is lowered.

Adjust the bed's restraining systems and articulations to avoid any risk of the patient sliding or moving.

Electrical function management

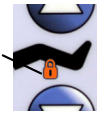
The electrical functions are managed on the foot control pendant* or the caregiver half-siderail keypads.



These lockout units are used to generally or selectively inhibit or enable the electrical functions of the bed.

Selective lock-out

– To inhibit an electrical function from a half-siderail keypad, press and hold the lock symbol, then press the function to be inhibited.



The indicator light of the corresponding function comes on to indicate that the function is locked out (1).

ⓘ *Locking out the thigh section adjustment control will also lock out the AutoContour™ when the adjustable head section function is disabled.*

– To enable an electrical function from a half-siderail keypad, press and hold the lock symbol, then press the function to be enabled.

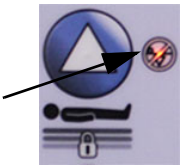
The indicator light of the corresponding function goes off to indicate that the function is enabled (0).

The selective locking out of functions is intended mainly to prevent accidental use that may cause injury of worsen a patient's conditions (e.g., for patients with hip replacements, disable the adjustable thigh section function).

ⓘ *Locking out a function does not affect the CPR.*

Bed not in lowered position indicator

A light on the caregiver keypads on the two half-siderails goes off when the bed is in the lowered position. This position is recommended when patients are left unattended.



ⓘ *This information can be sent to the duty nurse if the bed is connected to a hospital network with a compatible information system.*

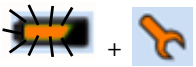
Message indicator on GCI™

A light on the caregiver keypads on the half-siderails turns blue when a message appears on the GCI™ screen.

ⓘ *In this way, the personnel is made aware of the message when positioned on the side of the bed opposite the GCI™.*

Battery charge indicator

A light on the caregiver half-siderail keypads shows the charge level of the bed and mattress batteries*.

Green light: the batteries are sufficiently charged.	
Orange light: the batteries must be recharged.	
Amber flashing light + amber maintenance light: the comfort battery and/or the emergency battery are flat and must be charged immediately, or the batteries are disconnected.	
Light off: the comfort battery is totally flat.	

Night light

A night light under the bed frame, which can be switched on or off using the caregiver half-siderail keypads, can be used to quickly see whether the bed is in the low position at night for greater safety.

Once activated, the night light comes on and changes color according to the height of the sleep surface.

- Green: the bed is in the low position.
- Orange: the bed is not in the low position.

CPR

Never allow a non-qualified person to operate this function and check that no obstacles (e.g., limbs, accessories, objects, power cords) or persons are under the head section.

This function is used in emergencies (e.g., reanimation, heart massage, etc.) or in the event of a power failure.

On the Hill-Rom® 900 Accella™ bed, there are two ways to operate the CPR function:

CPR handle

Pressing the handle mechanically returns the adjustable head section to the flat position, automatically aligns the HiLow with the higher side and deflates the combined mattress*.

As soon as the head section is flat, the handle can be released and the automatic leveling continues (unless another movement is activated).

CPR button

Press and hold the CPR button on the caregiver half-siderail keypads.

All the sections of the sleep surface return to the flat position, the bed frame is aligned with the lower side and the combined mattress* deflates.

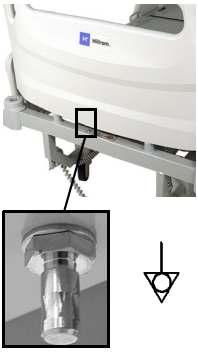
NOTE:
To reset the mattress, see "CPR" page 51.

Equipotential terminal

Failure to connect the equipotential cable may result in corporal injury.

When direct intravascular or intracardiac connections are in use, the electric potentials of all the unprotected metal parts need to be equalized.

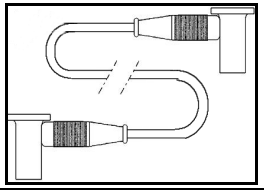
The bed must be connected to the electrical installation. To equalize potentials if a grounded power connection is unavailable, connect the equipotential cable (AC968A) to the connection terminal on the bed and the device.



Equipotential cable (AC968A)**

It is fitted with two POAG-WB 6 DIN type connectors and a 2 m long yellow and green cable.

This cable permit to equalize the electric potentials of all the unprotected metal parts of a device and the bed.



Nurse call

The "Nurse call" function is activated on the patient keypads, the caregiver keypads or the control pendant*.

Check that the cable connecting the bed to the hospital's communications system is connected and that the "Nurse call" control is accessible by the patient.

To Activate:

- Press a nurse call control.
- The light under the Nurse call symbol flashes for 1 minute. If the system acknowledges reception of the signal during this time, the light turns green. Otherwise, it goes out automatically.
- The light goes out if the caregivers confirm reception of the call.

If the bed detects a connection fault (cable not connected or fault), a continuous signal sounds if the nurse call control is activated.

If the the "Nurse call" control on the siderail patient keypads is not accessible by the patient, ensure that the another call solution is available (eg.: control pendant*)

Fixed IV pole (AD294A)**

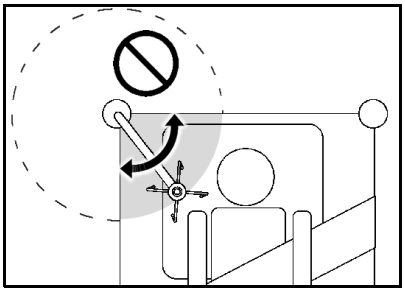
The IV pole is mounted in the angle supports and is used to hold IV bags.

Safe working load:
Refer to the value indicated on the IV pole

Telescopic IV pole (AD298A-AD299A)**

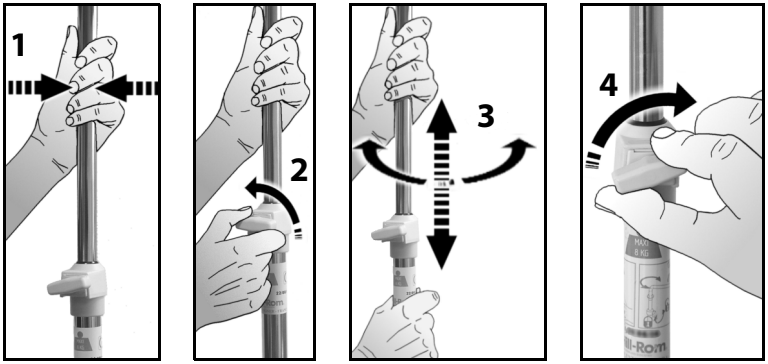
The IV pole is mounted in the angle supports and is used to hold IV bags.

Ensure that the IV pole is positioned facing towards the bed and not outwards as shown in the following illustration.



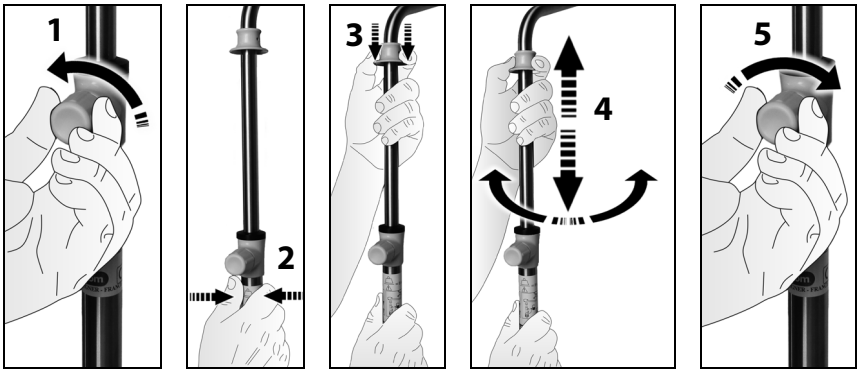
Using the IV pole (AD298A)**

To adjust the height or angle of the IV pole:



Using the IV pole (AD299A)**

To adjust the height or angle of the IV pole:



Linen holder*

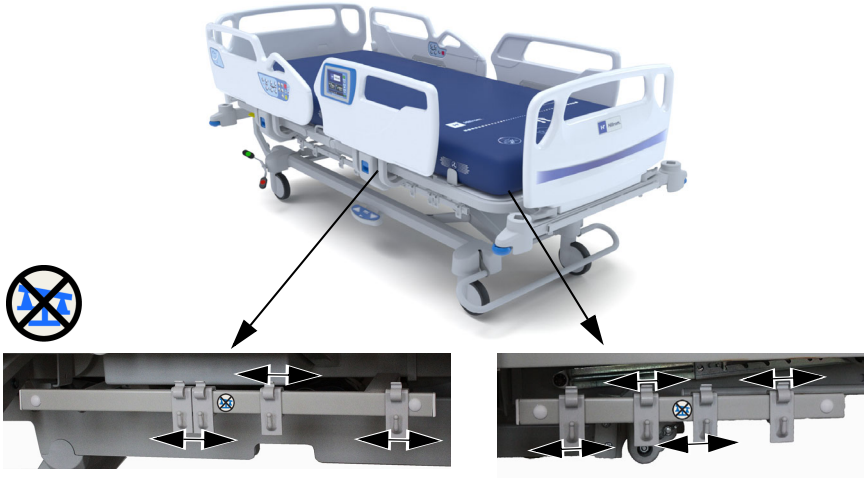
The linen holder must not be used to support luggage or as a seat, even for young children.

Do not sit or climb on the linen holder

Safe working load: 15 kg[1].

1. The safe working load specifications allow for a substantial safety margin.

Drainage bag holder pins



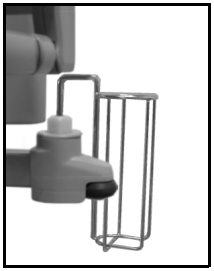
The urine bags attached to my pins will not be taken into account in weighing.

Oxygen cylinder holder (AC959A-AD101A-AD102A)**

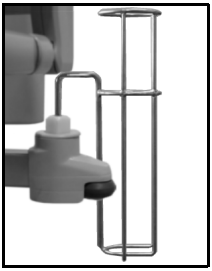
Safe working load: 15 kg[1]

The oxygen cylinder holder is designed to accept an oxygen cylinder and must only be fitted on the patient helper supports at the head end of the bed outside the sleep surface. It can be rotated through 80°. Each type of holder corresponds to a cylinder model and must never be used with a different cylinder. See below.

AC959A for cylinder model B5 (Ø1)



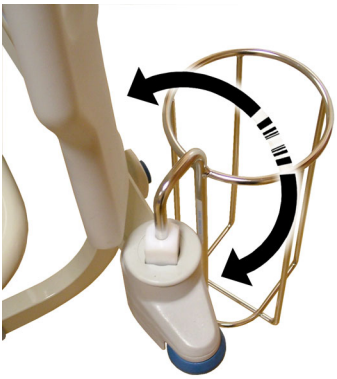
AD101A for cylinder model D (Ø100)



AD102A for cylinder model E (Ø100)

1. The safe working load specifications allow for a substantial safety margin.

The following recommendations are designed to prevent any possible incidents so that this accessory can be used in optimum safety conditions for both the patient and nursing staff.

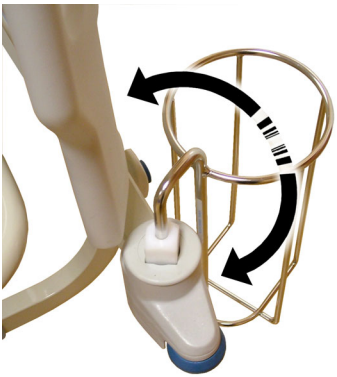


- Check that the cylinder is correctly positioned at the base of the cylinder holder.
- Never use a different oxygen cylinder model from the model that is specified above (danger of dropping the cylinder or interfering with various operations could occur).
- Prevent any impact when moving a bed equipped with a cylinder holder (especially doorways).
- If the cylinder holder does not allow the bed to go through a doorway, position the holder in front of the bed, otherwise place it and the cylinder on the mattress (remember to put the holder in its normal position after moving the bed).

Pivoting 3L Bottle Holder (AC962A)**

The bottle holder is designed to accept a 3 litter bottle and can be fitted on the supports at the foot end of the bed outside the sleep surface. It can be rotated through 80°.

The following recommendations are designed to prevent any possible incidents so that this accessory can be used in optimum safety conditions for both the patient and nursing staff.



- Prevent any impact when moving a bed equipped with a bottle holder (especially doorway or reverse Trendelenburg).
- If the bottle holder does not allow the bed to go through a doorway, position the holder in front of the bed, (remember to put the holder in its normal position after moving the bed).

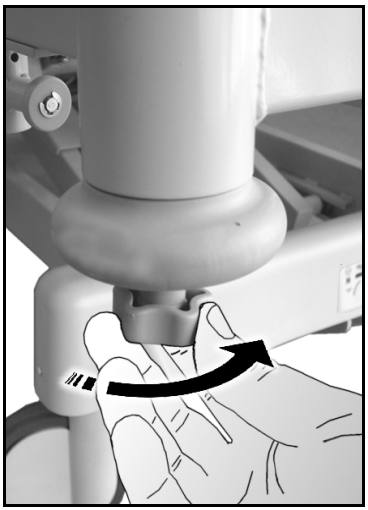
Monitor stand (AD244B)**

Safe working load: 15 kg[1]

The monitor stand fits into the sockets at the foot of the bed.

When fitting the monitor, ensure that the folded table is located on the outer edge of the bed.
The table must be folded away when moving the bed.
If the bed is in Trendelenburg or Reverse Trendelenburg, any devices must be placed on the monitor stand.

To fit a monitor stand:



1. The safe working load specifications allow for a substantial safety margin.

Syringe-driver holder (AC963A)**

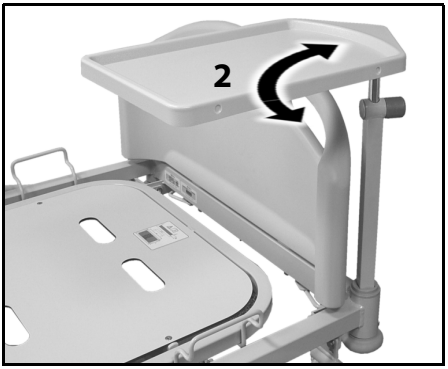
Safe working load: 15 kg[1]

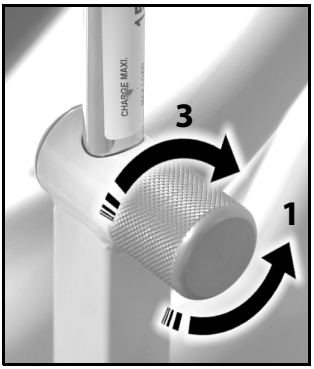
Do not position the accessory facing inwards, particularly under the head section when it is raised, so as to prevent any risk of the accessory obstructing the head section or siderail when being handled.

This accessory is designed to accept a syringe-driver and is fitted at the head end of the bed in the sockets provided.

To adjust position of the syringe driver holder:

- hold the tablet and loosen the knob,
- position the tablet as required and then tighten the knob.





Traction frame

Using traction frames on beds fitted with a weigh system compromises the accuracy of the results of the weighing operation and of the bed exit alert detection.

Traction equipment can be installed at four points: two at the head end and two at the foot end.

The caregivers must assess the patients to prevent them from becoming trapped or being asphyxiated when using the traction equipment.

Follow the establishment's protocol applying to the disabling of the bed controls when installing the traction equipment. This will avoid any injuries.

1. The safe working load specifications allow for a substantial safety margin.

IV line manager & support (AD286A)**

This accessory must be fitted by an authorized technician.

Please refer to the fitting instructions provided with the accessory when fitting the accessory.

A Line Manager is on each side of the head end of the bed. The Line Manager helps to keep lines (such as IV lines, suction lines, etc.) togetherand away from the articulating frame. The flexibility of the Line Manager lets you bend it in any direction.

Make sure the lines are not pinched or kinked and there is sufficient slack in the lines for bed articulations and patient movement. Failure to do so could cause injury or equipment damage.

Do not wrap the power cord or communication cable around the line manager.

X-ray-transparent adjustable head section (AD242A)**

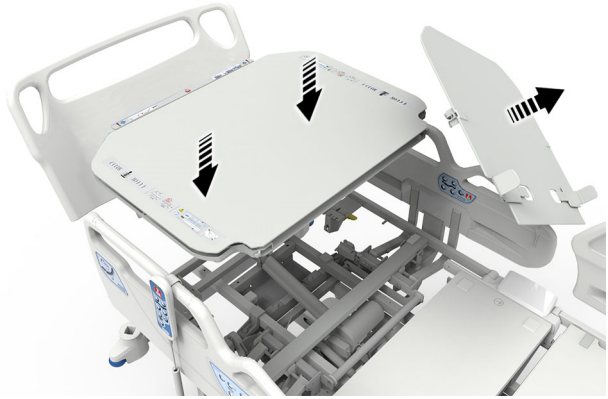
The X-ray-transparent adjustable head section accessory allows a cassette for 35 x 43 cm X-ray films (as per the standard EN ISO 4090) to be installed in order to take chest X-rays. It is installed in place of the hard surface of the head section.

The type (foam or air), the materials, the density and the thickness of the mattress, and the weight and morphology of the patient can affect the quality of the X-ray images. The best way to produce X-rays of an optimal quality is to get as close to the patient as possible. The radiologist is responsible for deciding on the best solution to take the X-ray according to the medical target and the hospital's protocol adapted to the patient's illness.

NOTE:
For patients weighing more than 100kg, the user must adjust the angle of the head section and the position of the patient to produce quality images.

Installing the accessory

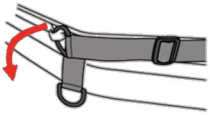
1. Remove the mattress to gain access to the hard surface of the head section.

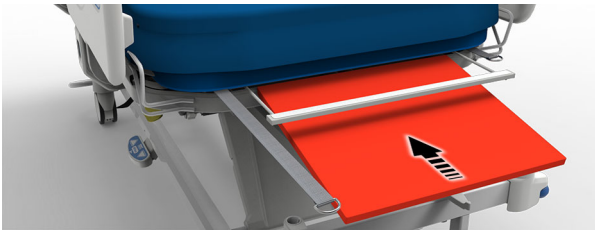


2. Unclip and remove the hard surface of the head section.
3. Install and clip the accessory in its place.

Installing an X-ray cassette

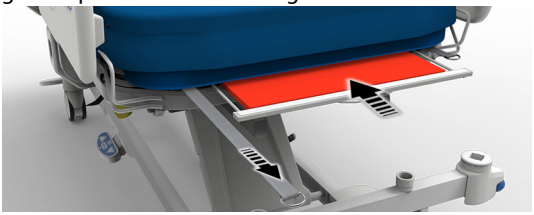
1. Remove the headboard to install the X-ray cassette in the top of the head section.
2. Install the sleep surface or raise the head section in order to insert the cassette.
3. Unhook the buckle of the right strap from its storage hook.
4. Pull on the left strap to extract the cassette support.
5. Lift the cassette retaining bar and insert the cassette in the landscape or portrait direction, as required.





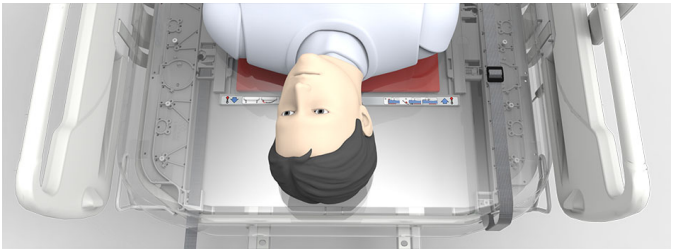
6. Check that the retaining bar locks the cassette in position.
7. For portrait images, pull the retaining bar upwards to lock the cassette.
8. If necessary, adjust the cassette in the sideways direction.

9. Adjust the position of the cassette using the right and left straps so that the retaining bar is positioned on the edge of the mattress.



10. Adjust the cassette positioning buckle. Wind the right strap around the mattress and put the buckle on the upper edge of the mattress. Once it has been adjusted using the right and left straps, this buckle is used to position the top of the cassette as required.

11. Position the patient on the bed with their hips by the marker on the siderail.
12. Adjust the height of the sleep surface and incline the head section as required.
13. Adjust the position of the cassette as required.



Removing the X-ray cassette

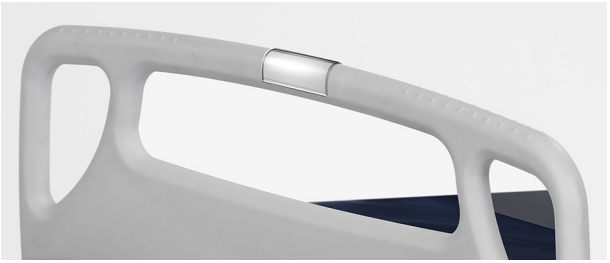
1. Pull on the left strap to extract the cassette support.
2. Raise the retaining bar and take out the cassette.
3. Pull on the right strap to insert the cassette support.
4. Hook the buckle of the right strap on its storage hook.

Chrome-plated IV hook (AC953A)**

This accessory is used to hold the IV bag to the patient helper AD810A** or AD811A**.

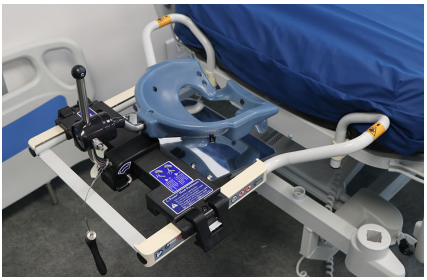
Label holder (AD325A)**

This additional part is used as a place to insert patient name label.



Head Adapter Bracket (214557)

The Head Adapter Bracket (214557) enables the Hill-Rom® 900 Accella™ bed to be equipped with the C-Shape Head Positioner (216054) and the C-Shape Single Use Foam Pad (P009426) that are used to support the patient's head in the prone position.



Refer to the Installation instructions (214803) for more information about the Head Adapter Bracket.

Refer to the Instructions for use (773439) for more information about the Allen™ C-Shape Head Positioner.

Brake and steer system

Brake and steer system

Always put the brake in the "STOP" position, except during transport. Once the brakes have been applied, push and pull the bed to make sure that it does not move.

The brake bar, located at the foot of the bed, or the bilateral pedals at the head end, simultaneously control all four casters, including one steering caster.

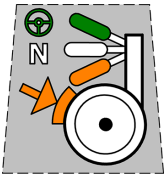
It has three positions:

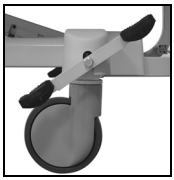
- "STOP" to prevent the bed from moving,
- "NEUTRAL" to move the bed in all directions,
- "STEERING" for easier movement in a straight line.

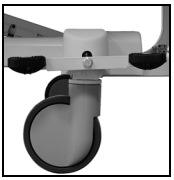
STOP

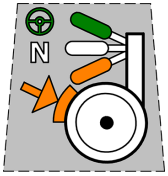
NEUTRAL

STEERING







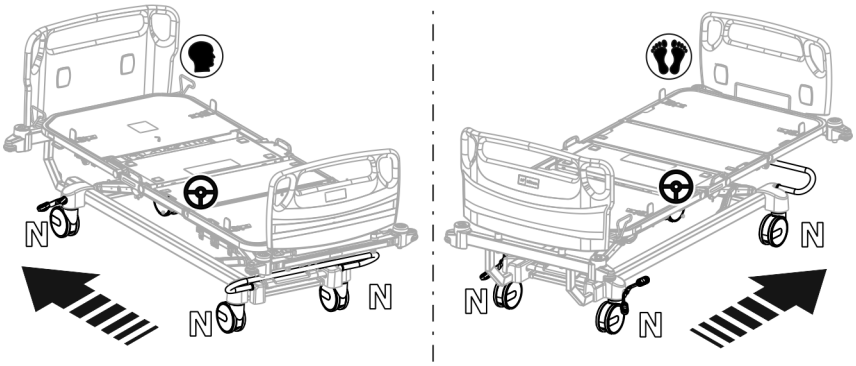


Label

Using the bar in the steering position

- **without 5th wheel** (basic version):
  All four wheels turn freely (NEUTRAL) and one wheel steers (it no longer swivels).

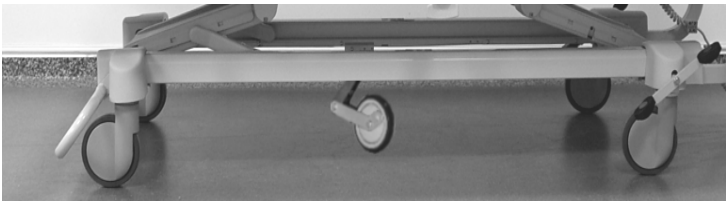
Steering wheel at head end | **Steering wheel at foot end***

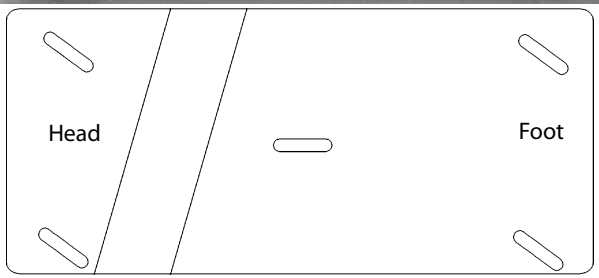


- **with 5th wheel with controlled release*:**

  When the brake and steer bar is in the steering position, the 5th wheel automatically switches to the steering position as soon as the bed moves forwards or backwards.

  The wheel can be released by returning the brake bar to the "NEUTRAL" position.





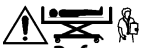
NOTE:
Before moving the bed sideways, check that the brake and steer bar is in the "NEUTRAL" position.

"Bed connected to power mains, brake not applied" detection*

When the bed is plugged into the mains and the brakes are not applied, a continuous alert sounds until the brakes are applied or the bed is disconnected from the mains.

This information can be sent to the duty nurse if the bed is connected to a hospital network with a compatible information system.

Moving the bed

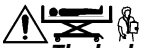


Before moving the bed, perform the following checks:

- *If there is a patient in the bed, ensure that the siderails are raised and locked to help prevent the patient from falling.*
- *Position the sleep surface so the top of the footboard is at the most suitable height for transporting the bed (approximately ½ Hi-Low) and with the foot section horizontal.*
- *Unplug the power cord and electrically powered accessories (e.g., self-contained air mattress, and the nurse call communications cable), securing them on the bed as shown in "Securing the power cable" page 88.*
- *Ensure that the bed or accessories (e.g., patient helper) will not catch on doorways or other obstacles (e.g. lights).*
- *Place the patient in a stable and comfortable position (do not fully raise the head section).*

Never try to move the bed by pulling on the power cable or you may damage it. A damaged power cord is an electric shock hazard.

Never use the patient helper or the IV stand to move the bed.



The bed should only be moved while in the transport position by two people (one at each end so as to ensure that there is always one person to operate the brake bar) when moving the bed on a slope, with a foot end directional caster or when moving the bed with a heavy load (heavy patient, accessories fitted, etc.).

Moving the bed:

- hold the endboard with both hands,
- raise the brake and steer bar to the "NEUTRAL" position to release the brakes,
- push the bed, steering with the headboard.

If the endboard is not lockable, be careful that it does not fall on the patient or injury someone in case of a fall.

For easy transportation in a straight line:

- push the bed using the end board opposite the steering wheel (See "Brake and steer system" page 85),
- after having moved the bed for a short distance to align the casters, raise the brake and steer bar to the "STEER" position.

After moving

- Apply the brakes,
- connect the bed and accessory power cords,
- connect the nurse call system communications cable.

Securing the power cable

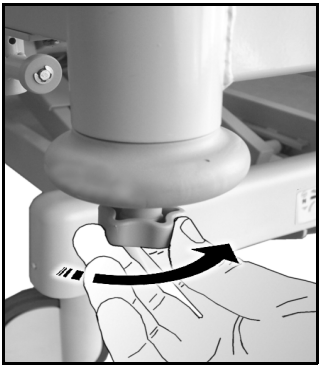
Always correctly store the power cable. Failure to follow this recommendation may result in damage to the cable by crushing and create the risk of electric shock.

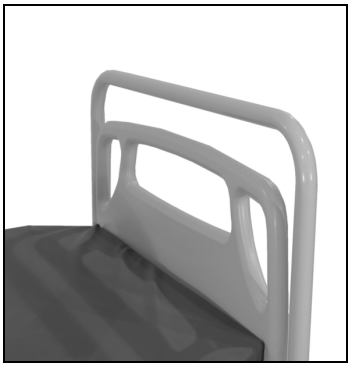
The power cable must be hooked in place before moving the bed.

Attachment with cable tie AD292A**

Removable frame (AD270B)**

The detachable tube helps to guide the bed when transferring.





Decontaminating the bed

Safety Recommendations

- Ensure that the bed cannot move.
- Lock out all electrical functions.
- Disconnect the bed and stow the power cable (see “Securing the power cable” page 88).
- Check that all plugs are well connected (control unit, electric motors on the power supply unit).
- Never clean the bed by pouring water on it, nor with high-pressure hoses nor in tunnel washes.
- Never use water at a temperature of more than 60°C.
- Avoid excess water on the connectors.
- Refer to the recommendations of the cleaning product manufacturer.
- Thoroughly dry before reusing.
- In order to guarantee the performances of the bed, all components that are removed for cleaning purposes must be returned to exactly the same place.

Failure to implement one or more of these recommendations may lead to damage or deterioration, preventing use of the bed and rendering the warranty void.

Recommendations

Personnel must be trained to perform appropriate cleaning and disinfection.

The instructor must carefully read the instructions and follow them while the trainee is attending the course. The trainee must:

- Take all the time needed to read the instructions and ask questions.
- Clean and disinfect the product under the instructor's supervision.
- During and / or after this process, the instructor must correct the trainee regarding any deviation from the instructions for use.

The instructor must supervise the trainee until the trainee is able to clean and disinfect the bed as per the instructions.

Recommendations for cleaning and disinfection

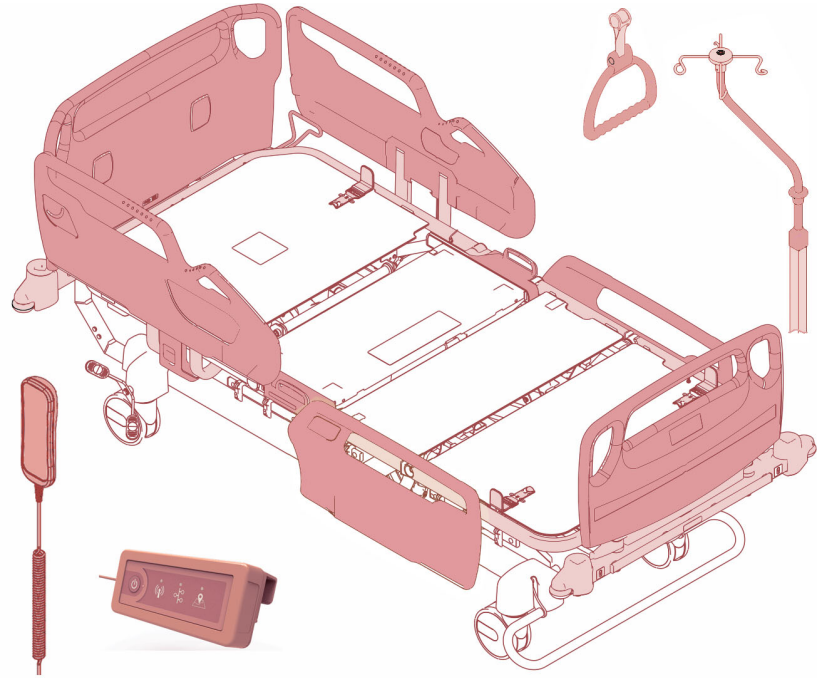
The following recommendations are not designed to replace existing cleaning protocols drawn up by the hygiene officer or by other bodies for your hospital.

The disinfecting method described below applies specifically to the bed and its accessories and is designed to save time and to help combat nosocomial infection more effectively.

Clean the bed with a lightly dampened cloth and ordinary disinfectant. Do not use excessive liquid.

This bed is designed for easy cleaning and optimal hygiene.

Recommended cleaning and disinfection



Clean and disinfect every day.

Clean and disinfect after patient departure or before patient transfer.

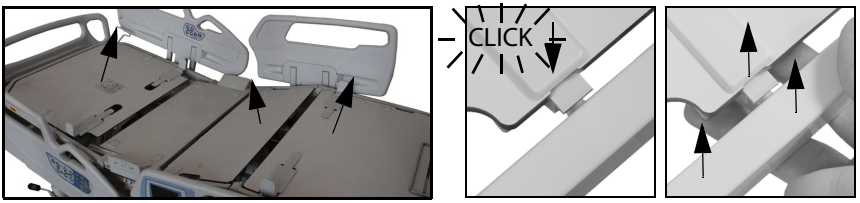
Clean and disinfect thoroughly (after the departure of an infected patient or recommended every two months).

Decontamination Record

A decontamination record should be kept for each bed, mentioning:

- month, ward and room number, bed reference number.
- cleaning frequency, materials and products used.

Sleep surface.



Recommended Materials and Products

NOTE:
A list of recommended cleaning products for all types of cleaning requirements is available on your request along with a special maintenance advice leaflet.

- Single-use tissues or recyclable textile wipers.
- One pair of household gloves.
- Detergent-disinfectant solution diluted according to hospital guidelines (and taking into account the recommendations given below) or a disinfecting spray.
- Use a product that complies with standard EN 14885 (bactericide including TB, fungi and viruses, including HIV-1 and HBV).
- Chlorine-based products (26000 ppm) that comply with the standard EN 13727 and EN 13624 can be used, but may cause discoloring. Bare metal parts must be rinsed to prevent corrosion.

The following products should not be used.

Formaldehyde, phenol-based products and solvents of any kind (toluene, xylene or acetone).

Never use abrasives, cleaning powder or cleaning pads that may damage components.

Recommended Cleaning and Disinfection Method

- Always wipe downward, working from the cleanest to the dirtiest areas.
- Do not scrape surfaces.
- Keep wipes damp (wet as many times as needed and do not wring out too much water).
- Let product dry according to disinfectant manufacturer's recommendations to ensure maximum efficiency.
- If necessary, rinse according to the disinfectant product manufacturer's recommendations.
- Change wipes when cleaning the least contaminated areas to areas of medium or to highly contaminated areas.
- Change wipes when cleaning another bed.
- Always dry the bed thoroughly after it has been cleaned.

Cleaning tough stains

ⓘ *Quickly wipe away any traces of pharmaceutical solutions or other staining products in order to avoid permanent damage to the surface.*

To remove tough stains, use standard household cleaners and a soft bristle brush. To loosen heavy, dried-on soil or excreta, you may first need to saturate the spot.

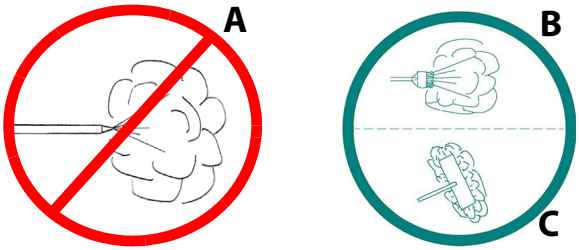
Some zones (interstices between the parts, "textured" parts and plastic parts with a complex shape, textile straps) can be more difficult to clean. You are advised to spend more time on these zones, for instance by double-cleaning.

Use as many wiping cloths as necessary to remove dirt.

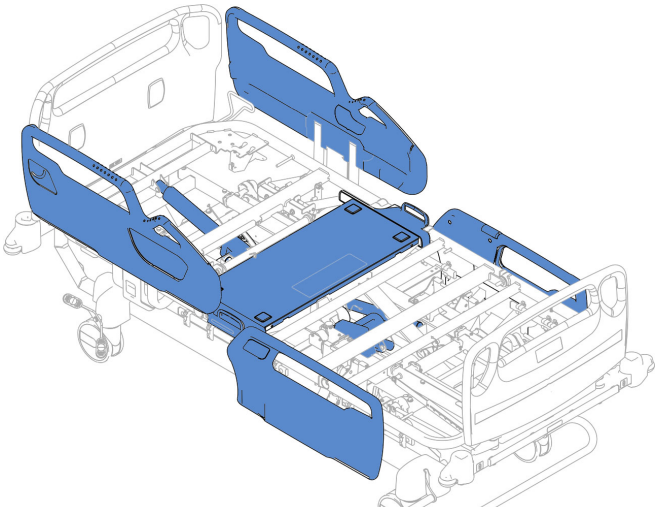
Steam Cleaning

These beds can be steam cleaned. However, in order to avoid any damage or deterioration caused by high pressure or abnormal surface temperature, the following precautions should be taken:

- avoid any excess water and use reduced steam pressure with microfiber support when cleaning electrical components (control unit, actuators, lateral caregiver units, half-siderails with keypads, remote controls and control cluster arms),
- do not use accessories such as high pressure hoses (A). It is preferable to use soft non-metallic brushes (B) and microfiber support (C) in such a way as to reduce the pressure to an acceptable level,



Steam cleaning areas



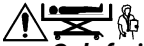
Clean with a microfiber support only.

Clean with a soft non-metallic brush or a microfiber support.

- prevent water and steam from getting into connectors that are not in use,
- do not brush and use reduced pressure on labels and markings,
- carefully dry and test the bed before reuse.

Servicing the bed

Safety recommendations



Only facility-authorized personnel should perform maintenance of the Hill-Rom® 900 Accella™ bed.

Before maintenance or servicing works:

- ensure that the bed has been immobilized (if no movements are required),
- lock out all electrical functions,
- disconnect the bed from the mains if no electrical operations are planned,
- secure the sleep surface and take whatever steps are necessary to prevent any movement,
- not to intervene on the device if it is busy.

Any device connected to the (CAN) connector exclusively reserved for maintenance must meet the IEC 60950-1 requirements.

Never open or pierce an electric actuator.

Contact our after sales service for any specific maintenance problem (e.g., blockages, etc.).

Preventive maintenance

ⓘ *A service manual and a catalog of spare parts are supplied on delivery, but can also be obtained on demand from Hill-Rom After-Sales. Hill-Rom guarantees that the original functional parts or parts performing equivalent functions will remain available for 7 years after the corresponding range goes out of production.*

ⓘ *The product design life is validated on 10 years of normal use.*

ⓘ *The frequency of inspections must be adapted to the general condition of the product and it use, for example, if the bed is used by heavy patients. It is the responsibility of the facility to implement a preventive maintenance program for the bed's functions under its conditions of use.*

The bed and accessories should be inspected at least once a year to keep it in good condition and working properly.

The following points should be given particular attention:

- movement mechanisms and cables (actuators in particular),
- locking mechanisms (head section, foot section, thigh section and AutoContour™),
- the accessory mechanisms,
- bed movement and ancillary part bearings,
- The condition of the electrical cables (e.g., control pendant, power supply unit, combined mattress connecting cable) in particular that they are not crushed or cut and thus could make contact with a metal part,
- earthing of the metal parts of the bed,
- waterproofing of electrical parts,

- protection of the (CAN) connector outside maintenance operation,
- siderails: check the play and the lock mechanisms (condition and working order),
- weigh system and bed exit alerts system: frequency regarding national regulations.

Every year, it is preferable to ask Hill-Rom After-Sales Service or a Hill-Rom approved supplier to inspect the actuators and the electrical systems in order to keep them in safe and good working order over time. Depending on the maintenance operations and observations, the date of the next inspection must be recommended every time the device is serviced.

Batteries

- If the system detects that the comfort and/or emergency batteries are totally flat, the amber battery charge light on the caregiver keypads in the head half-siderails flashes and the fault-maintenance ind.icator light comes on. They must be immediately recharged.

End-of-life equipment

The bed and its accessories should be cleaned and disinfected before de-commissioning.

Customers should adhere to all federal, state, regional, and/or local laws and regulations as it pertains to the safe disposal of medical devices and accessories. If in doubt, the user of the device shall first contact Hill-Rom Technical Support for guidance on safe disposal protocols (Directive 2012/19/EU).

•As regards the battery, never dispose of the batteries which contains substances and dangerous metals for the environment and the health (Directive 2006/66/EEC).

All components complies with Substances of Very High Concern (SVHC) Regulation (Directive 1907/2006/EEC) on Registration, Evaluation and Authorization and Restriction of Chemicals (REACH), except the GCI™ parts in the tables below.

Description: XTAL 25.0MHZ 30PPM R
Part Number: ABM7-25.000MHZ-D2Y-T
Manufacturer: ABRACON CORP

Substance Identification:	Diboron trioxide / Lead monoxide (lead oxide)
Substance Concentration:	3767 ppm / 105766 ppm
Substance Location:	Screen part of the CGI™ / Screen part of the CGI™

Description: LITHIUM BATTERY 3V CR2032
Part Number: CR2032MFR
Manufacturer: RENATA BATTERIES U.S.

Substance Identification:	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)
Substance Concentration:	1-3.5% by part weight
Substance Location:	Inside the battery

For electronic devices with data storage that can still have treatment and patient data on them, this data should be deleted before disposal of the device, as a matter of cybersecurity procedure

The bed is designed for easy dismantling so that it can be destroyed or reused in accordance with the applicable recycling regulations (e.g., electric parts, plastics metal).

At the end of the bed's life, Hill-Rom recommends that you contact a specialist in the dismantling of beds or, if the bed can still be used, to donate the bed to a charitable organization so that it can be used again.

Always clean and disinfect the bed before shipment for dismantling or donation.

Decontaminating / servicing the combined Accella™ Therapy mattress*

The information specific to the Accella™ Therapy mattress (cleaning and disinfection methods, recommended products, etc.) can be found in the User Manual, reference 199253.

Warranty and after sales service conditions

The warranty for our beds will be rendered null and void, in part or in total, in the event of:

- unauthorized interference with or incorrect maintenance of:
  - actuators,
  - electrical drives and components,
  - mechanical systems,
  - any abnormal use,

Contact your country Hill-Rom representative or go to hillrom.com to find the After-Sales Service contact details.

Compliance

CE conformity mark

- The CE conformity mark applicable to class I Medical Devices was applied to the LI900B4 bed for the first time in 2016.
- The CE conformity mark applicable to class Im Medical Devices with measuring function was applied to the LI900B4 bed with weight system* for the first time in 2019.
- The CE conformity mark applicable to class III Non Automatic Weighing Instrument was applied to the LI900B4 beds with weigh system* for the first time in 2016.
- The CE conformity mark applicable Radio Equipment was applied to the LI900B4 bed with SmartCare™* or SmartSynch™* module for the first time in 2018.
- Complies with standards:
  - NF S 90-312 (1984),
  - EN 60601-1 (2007) & A1 (2013) / IEC 60601-1 (2005) & A1 (2012),
  - EN 60601-1-2 (2015) / IEC 60601-1-2 (2014),
  - EN 60601-2-52 (2010) / IEC 60601-2-52 (2009), application environments 1, 2 and 5, according to version.
  - EN 45501 (2015)*
- The Hill-Rom® 900 Accella™ beds are NF MEDICAL - LITS compliant Authorization N°: NF178-01/01
  - Certified characteristics:
    - electrical safety precautions,
    - electromagnetic compatibility,
    - mechanical safety precautions,
    - aptitude for use.

- The Hill-Rom® 900 Accella™ bed meets the "NF Environnement - Ameublement"
  - Institut Technologique FCBA
    10, rue Galilée
    77420 Champs-sur-Marne
    FRANCE
    www.fcba.fr

  - The NF ENVIRONNEMENT marking guarantees performance and ecology:
    •Quality / Durability
    •Health / Safety
    •Environment

  Visit the website for more information
  www.nf-environnement-ameublement.com
- The NF Environnement certified Hill-Rom® 900 Accella™ bed is designed, manufactured and checked to reduce environmental impact up to end of life (limitation of transformation energy of the materials, heavy metal-free finishing products, possibility to recycle, etc.).
- Compliant with INMETRO regulation No. 350 of September 6, 2010 and the compulsory certification of electrical equipment according to the requirements of the Brazilian National Health Surveillance Agency - ANVISA - RDC Nr 27, 2011-06-21 and IN 03, 2011-06-21.

Electromagnetic conformance

Electromagnetic emissions compliance

This device meets all the requirements related to electromagnetic compatibility, in accordance with the standard IEC 60601-1-2 and the directives applicable to medical devices, and has passed all the tests to demonstrate that it meets these requirements. It is most improbable that users experience problems due to deficient electromagnetic immunity. However, electromagnetic immunity is always relative, and standards are based on anticipated environments of usage. If the user notices that the device behaves unusually, and especially if this behavior is intermittent and occurs when in the vicinity of radio or TV transmitters, cell phones or electrosurgical equipment, this may be a sign of electromagnetic interference. If such behavior occurs, users must try to move the equipment well clear of the origin of the interference with the device.

The Hill-Rom® 900 Accella™ bed must not be used close to or on top of other items of equipment. If this is necessary, the Hill-Rom® 900 Accella™ bed must be tested to confirm that it functions properly in the required configuration.
Make sure that the Hill-Rom® 900 Accella™ bed functions correctly when used in the vicinity of other electric appliances. Mobile and portable radio frequency (RF) communication equipment may damage the electric medical equipment.
Electric medical equipment demands special precautions regarding electromagnetic compatibility (EMC) and must be installed and used in accordance with the EMC-related information contained in this manual.
The use of accessories, transducers and cables other than those specified, apart from the transducers and cables sold by the manufacturer of these devices, such as replacements of internal components, may result in an increase and/or reduction of the immunity of the Hill-Rom® 900 Accella™ bed.

Manufacturer's guide and declaration – electromagnetic emissions		
The Hill-Rom® 900 Accella™ bed and the Wi-Fi connectivity module are designed for use in the electromagnetic environment specified below. Users must ensure that they are used in this environment.		
Emission test	Compliance	Electromagnetic environment - Guide
RF emissions CISPR 11	Group 1	The Hill-Rom® 900 Accella™ bed only uses radio electric power for its internal functions. Consequently, it only produces very weak RF emissions that are unlikely to cause interference with nearby electronic equipment.
CISPR 11 RF emissions	Class A	The Hill-Rom® 900 Accella™ bed can be used in all places other than domestic premises and premises that are directly connected to the low voltage public mains power network used to supply domestic buildings.
Harmonic emissions IEC 61000-3-2	Class A	
Flicker IEC 61000-3-3	Applicable	
CISPR 14-1 RF emissions	Compliant	The Hill-Rom® 900 Accella™ bed is not designed to be connected to other equipment.

Compliance with electromagnetic immunity

Manufacturer's guide and declaration – electromagnetic immunity			
The Hill-Rom® 900 Accella™ bed and the Wi-Fi connectivity module are designed for use in the electromagnetic environment specified below. Users must ensure that they are used in this environment.			
Immunity test	IEC 60601 Severity	Compliance	Electromagnetic environment - Guide
Electrostatic discharges IEC 61000-4-2	± 8 kV on contact ± 2 kV, ± 4 kV, ± 8 kV and ± 15 kV in the air	± 8 kV on contact ± 2 kV, ± 4 kV, ± 8 kV and ± 15 kV in the air	The relative humidity must be at least 5%.
Fast transients in bursts IEC 61000-4-4	± 2 kV for the power supply lines ±1kV for the input/output lines (100 kHz Repetition Frequency)	± 2 kV for the power supply lines ± 1 kV for the input/output lines (100 kHz Repetition Frequency)	The quality of the main power supply must be that of a typical commercial or hospital environment.
Voltage surges IEC 61000-4-5	1 kV differential mode 2 kV common mode	1 kV differential mode 2 kV common mode	The quality of the main power supply must be that of a typical commercial or hospital environment.
Magnetic field at the frequency of the mains power supply (50/60 Hz) IEC 61000-4-8	30 A/m 60 Hz	30 A/m 60 Hz	The magnetic field at the frequency of the mains supply must be characteristic of a typical commercial or hospital environment.
Voltage Dips IEC 61000-4-11	0% U_T: 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315° 0% U_T: 1 cycle 70% U_T: 25/30 cycles Single phase: at 0° (see note)	0% U_T: 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270°, and 315° 0% U_T: 1 cycle 70% U_T: 30 cycles Single phase: at 0° (see note)	The quality of the main power supply must be that of a typical commercial or hospital environment. If the user of the Hill-Rom® 900 Accella™ bed requires that the bed remain functional during outages of the mains power supply, it is advisable to power the Hill-Rom® 900 Accella™ bed using a UPS or a battery.
Voltage Interruptions IEC 6100-4-11	0% U_T for 250/300 cycles	0% U_T for 300 cycles	
Note : U_T is the nominal value of the supply voltage applied during the test.			

Manufacturer's guide and declaration – electromagnetic immunity			
The Hill-Rom® 900 Accella™ bed and the Wi-Fi connectivity module are designed for use in the electromagnetic environment specified below. Users must ensure that they are used in this environment.			
Immunity test	IEC 60601 Severity	Compliance	Electromagnetic environment - Guide
Conducted RF IEC 61000-4-6	3 Vrms 0.15 MHz - 80 MHz 6 V in ISM bands between 0.15 MHz and 80 MHz 80% AM at 1 kHz rms 150 kHz to 80 MHz	3 V 0.15 MHz - 80 MHz 6 V in ISM bands between 0.15 MHz and 80 MHz 80% AM at 1 kHz rms 150 kHz to 80 MHz	
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.7 GHz 80% AM at 1 kHz	3 V/m 80 MHz to 2.7 GHz 80% AM at 1 kHz	The field levels emitted by fixed RF transmitters, as determined by an electromagnetic measurement of the site[a], must be below the level of compliance in each frequency band[b]. Interference may occur close to devices identified with the following symbol: 
These recommendations may not apply to certain situations. The propagation of electromagnetic waves is affected by absorption and reflection due to structures, objects and persons.			

a. The field levels of fixed transmitters, such as radio telephone bases (cell/wireless) and terrestrial mobile radios, amateur radios and AM, FM and TV communication radios cannot be theoretically evaluated precisely. Site measurements are required in order to obtain the electromagnetic environment due to fixed RF transmitters. If the field level measured in the working environment of the Hill-Rom® 900 Accella™ bed is greater than the above applicable levels of compliance, the operation of the Hill-Rom® 900 Accella™ bed must be checked. If any anomalies are detected, additional measures must be taken, such as redirecting or relocating the reference equipment.

b. The field level must be less than 3V/m above the frequency band 150 kHz to 80 MHz.

IMMUNITY to Proximity Fields from Radio Frequency Wireless Communications Equipment						
In addition to the Radiated RF IEC 61000-4-3 as shown in the table above, the Wi-Fi connectivity module has been tested as specified in the table below.						
Test Frequency (MHz)	Band (MHz)	Service	Modulation	Maximum Power (W)	Distance (m)	Immunity Test Level (V/m)
385	380 - 390	TETRA 400	Pulse modulation 18 Hz	1,8	0,3	27
450	430 - 470	GMRS 460, FRS460	FM $\pm$ 5 kHz deviation 1 kHz sine	2	0,3	28
710 745 780	704 - 787	LTE Band 13, 17	Pulse modulation 217 Hz	0,2	0,3	9
810 870 930	800 - 960	GSM 800/900 TETRA 800, iDEN 820, CDMA 850, Band LTE 5	Pulse modulation 18 Hz	2	0,3	28
1720 1845 1970	1700 - 1990	GSM 1800 ; CDMA 1900 ; GSM 1900 ; DECT ; Band LTE 1,3, 4, 25 ; UMTS	Pulse modulation 217 Hz	2	0,3	28
5240	5100 - 5800	WLAN 802.11 a/n	Pulse modulation 217 Hz	0,2	0,3	9

Recommended separation distances

Recommended separation distances between portable and mobile RF communications equipment and the Hill-Rom® 900 Accella™ bed and the Wi-Fi connectivity module.

The Hill-Rom® 900 Accella™ bed and the Wi-Fi connectivity module are designed for use in an electromagnetic environment in which interference due to radiated RF is monitored. The user of the Hill-Rom® 900 Accella™ bed can contribute to the prevention of electromagnetic interference by keeping the Hill-Rom® 900 Accella™ bed at the recommended distances from portable and mobile RF equipment (transmitters) as shown below, according to the maximum power output of the communication equipment.

Maximum assigned power output of the transmitter W	Separating distance versus the frequency of the transmitter m		
	150 kHz to 80 MHz	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d = 1,16\sqrt{P}$	$d = 1,16\sqrt{P}$	$d = 2,23\sqrt{P}$
0.01	0.12	0.12	0.24
0.1	0.37	0.37	0.74
1	1.12	1.12	2.33
10	3.67	3.67	7.37
100	11.6	11.6	23.3

For transmitters with a maximum power output that is not in the list above, the recommended separation distance in meters (m) can be calculated using the equation that applies to the frequency of the transmitter, where P is the maximum output power of the transmitter in Watts (W) assigned by the manufacturer of the transmitter.

NOTE:

At 80 MHz and 800 MHz, the separating distance in the upper frequency band applies.

NOTE:

These recommendations may not apply to certain situations. The propagation of electromagnetic waves is affected by absorption and reflection due to structures, objects and persons.

Wireless Connectivity Specifications

The Wireless Connectivity module supports these security protocols:

Standards

- Wireless Equivalent Privacy (WEP)
- Wi-Fi Protected Access (WPA)
- IEEE 802.11i (WPA2)

Encryption

The Wireless Connectivity module supports these encryption protocols:

- Wireless Equivalent Privacy (WEP, RC4 Algorithm)
- Temporal Key Integrity Protocol (TKIP, RC4 Algorithm)
- Advanced Encryption Standard (AES, Rijndael Algorithm)
- Encryption Key Provisioning Static (40-bit and 128-bit lengths)
- Pre-Shared (PSK)
- Dynamic 802.1X

- Encryption Options
  - Off
  - On
  - Auto
  - PSK
  - WPA-TKIP
  - WPA2-PSK
  - WPA2-AES

Extensible Authentication Protocol Types (EAP Types)

- EAP-FAST
- PEAP-MSCHAP
- EAP-TLS
- PEAP-TLS
- EAP-TTLS
- LEAP
- PEAP-GTC

Wireless connection characteristics

Characteristic	Description
Frequency Band—2,4 GHz	FCC : 2,4 GHz à 2,483 GHz ETSI : 2,4 GHz à 2,483 GHz MIC : 2,4 GHz à 2,495 GHz KC : 2,4 GHz à 2,483 GHz
Frequency Band—5 GHz	FCC : 5,15 GHz à 5,35 GHz, 5,725 GHz à 5,825 GHz ETSI : 5,15 GHz à 5,35 GHz, 5,47 GHz à 5,725 GHz MIC : 5,15 GHz à 5,35 GHz, 5,47 GHz à 5,725 GHz (W56) KC : 5,15 GHz à 5,25 GHz, 5,725 GHz à 5,825 GHz
Modulation	BPSK à 1, 6, 6,5, 7,2 et 9 Mbps QPSK à 2, 12, 13, 14,4, 18, 19,5 et 21,7 Mbps CCK à 5,5 et 11 Mbps 16-QAM à 24, 26, 28,9, 36, 39 et 43,3 Mbps 64-QAM à 48, 52, 54, 57,8, 58,5, 65 et 72,2 Mbps
Network Standards	IEEE 802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11n
Data Rates Supported	802.11a (OFDM) : 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11b (DSSS, CCK) : 1, 2, 5,5, 11 Mbps 802.11g (OFDM) : 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n (OFDM, HT20, MCS 0-7) : 6,5, 13, 19,5, 26, 39, 52, 58,5, 72,2 Mbps et 7,2, 14,4, 21,7, 28,9, 43,3, 57,8 et 65 Mbps
Transmit Power Settings	802.11a : 6 Mbps 15 dBm, 54 Mbps 13 dBm (PER - 10 %) 802.11b : 1 Mbps 16 dBm, 11 Mbps 16 dBm (PER - 10 %) 802.11g : 6 Mbps 16 dBm, 54 Mbps 14 dBm (PER - 10 %) 802.11n (2,4 GHz) : MCS 0 Mbps 16 dBm MCS 7 Mbps 12 dBm 80211n (5 GHz) : MCS 0 Mbps 15 dBm, MCS 7 Mbps 12 dBm
Interference Signal to Noise Ratio (SNR[a])	>15dB
Signal strength wireless signal: RSSI[b]	> -65dBm (when 802.11a APs set to 25mW). For proper Tx/Rx balance, RSSI readings must apply when APs at transmitting at 25mW or less.

a. Signal to Noise ratio.
b. Received Signal Strength Indicator

Regulatory Information

Changes and/or modifications not expressly approved by Hill-Rom Co., Inc. could void the user's authority to operate the equipment.

The module must be installed and used in accordance with the Hill-Rom user and installation instructions. Hill-Rom is not responsible for any radio or television interference caused by unauthorized modification of the devices included with the Hill-Rom module, or the substitution or attachment of connection cables and equipment other than that specified by Hill-Rom Co., Inc. The correction of interference caused by such unauthorized modification, substitution, or attachment is the responsibility of the user. Hill-Rom is not liable for any damage or violation of government regulations that may arise from the user failing to comply with these requirements.

USA—Federal Communications Commission (FCC) Radiation Exposure Statement

The radiated output power of the module is far below the FCC radio frequency exposure limits. Nevertheless, the module must be used in such a manner that the potential for human contact during normal operation is minimized. To avoid the possibility to exceed the FCC radio frequency exposure limits, you should keep a distance of at least 8" (20 cm) between you (or any other person in the vicinity) and the antenna that is built into the wireless module.

Interference Statement for FCC

NOTE:
"Harmful Interference" is defined by the FCC as follows: Any emission, radiation, or induction that endangers the functioning of a radio navigation service, or of other safety services, or seriously degrades, obstructs, or repeatedly interrupts a radio communications service, operating in accordance with FCC rules.

These devices comply with Part 15 of the FCC Rules. Operation of the devices is subject to these two conditions: (1) the devices may not cause harmful interference, and (2) the devices must accept any interference that may cause unwanted operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to supply reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If the equipment is not installed and used in accordance with the instructions, the equipment may cause harmful interference to radio communications. There is no guarantee, however, that such interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment off and on), the user is encouraged to take one of these measures to try to correct the interference:

- Move this device.
- Increase the separation between the device and the receiver.
- Connect the device to an outlet on a circuit different from that of other electronics.
- Consult the dealer or an experienced radio technician for help.

NOTE:
The module must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product. Any other installation or use will violate FCC Part 15 regulations. Modifications not expressly approved by Hill-Rom could void your authority to operate the equipment.

The module must not be co-located or operated in conjunction with any other antenna or transmitter.

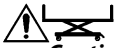
Canada—Industry Canada (IC)

This device complies with RSS210 of Industry Canada.

Operation is subject to these two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, which include interference that may cause unwanted operation of this device.

The term "IC" before the equipment certification number only signifies that the Industry Canada technical specifications were met.

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.



Caution—Exposure to Radio Frequency Radiation.
The installer of this radio equipment must make sure the antenna is located or pointed such that it does not emit an RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website http://www.hc-sc.gc.ca/rpb.

Brazil

This product is embedded with the module WL18MODGI already homologated by ANATEL with homologation code 07346-19-09891.

DECLARATION UE DE CONFORMITE

Directive RED 2014/53/UE

DECLARATION UE OF CONFORMITY

SOCIETE (fabricant ou mandataire) Hill-Rom S.A.S.
COMPANY (manufacturer or authorised representative):
Nom : Hill-Rom S.A.S.
Name: Hill-Rom S.A.S.
Adresse : Z.I. du Talhouët, 56330 PLUVIGNER, FRANCE
Address: Z.I. du Talhouët, 56330 PLUVIGNER, FRANCE

La présente déclaration de conformité est établie sous la seule responsabilité du fabricant
This declaration of conformity is issued under the sole responsibility of the manufacturer

IDENTIFICATION DU PRODUIT

Identification of the Product
Marque: Hill-Rom
Brand name: Hill-Rom
Désignation commerciale : Hill-Rom® 900 Accella™
Trade name: Hill-Rom® 900 Accella™
Type : LI900B4
Type: LI900B4
Description et identification du produit: Lit avec fonction SmartCare™ (communication WI-FI avec solution MediaScreen de Telecom Santé)
Product description and identification: Bed with SmartCare™ function (WI-FI communication with MediaScreen solution powered by Telecom Santé)

L'objet de la déclaration décrit ci-dessus est conforme à la législation d'harmonisation de l'Union applicable :
The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

- ***Directive 2014/53/UE (RED)***

➢ ***Documents appliqués***

Article 3.1 a (2014/53/UE) : EN 60601-1: 2006 / Am1:2013 EN 60601-2-52 :2010 / EN 62311 : 2008
(Protection de la santé et sécurité des utilisateurs / Safety & protection of the users'health)
Article 3.1 b (2014/53/UE) : EN 60601-1-2 :2015, ETSI EN 301 489-17 V3.1.1
(Compatibilité électromagnétique / Electromagnetic compatibility)
Article 3.2 (2014/53/UE) : ETSI EN 300 328 V2.1.1: 2016
(Utilisation efficace et utilisation optimisée du spectre radioélectrique / Effective and efficient uses of the radio spectrum)

(*)L'organisme notifié EMITECH, 0536 a réalisé l'examen et a délivré le certificat d'examen UE de type limité à l'article 3.2 : N°17-106282
(*) The notified body EMITECH, 0536 performed the examination ***and issued the EU-type examination certificate limited to 3.2 article: N°17-106282***

(*)Accessoires, logiciels et composants : 202068.1.0.x.x logiciel, SPWF04SA module
(*)Accessories, software and components: 202068.1.0.x.x software, SPWF04SA module

Signé par et au nom de: Pascal Vibert – Hill-Rom S.A.S.
Signed for and on behalf of: Pascal Vibert – Hill-Rom S.A.S.

Date et lieu : Pluvigner, 12 Juillet 2018
Date and place: Pluvigner, 12th July 2018

Signature :
Signature :

Hill-Rom
ZI du Talhouët - 56330 PLUVIGNER
Tél. 02 97 50 92 12
N° Siret 777 346 412 00052 - RC 65 B 35 Lorient

NPD35121 version 1

DECLARATION UE DE CONFORMITE

Directive RED 2014/53/UE

DECLARATION UE OF CONFORMITY

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Address: Z.I. du Talhouët, 56330 PLUVIGNER, FRANCE

La présente déclaration de conformité est établie sous la seule responsabilité du fabricant
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LI900B4

AD315A

IDENTIFICATION DU PRODUIT

Identification of the Product
Marque: Hill-Rom
Brand name: Hill-Rom
Désignation commerciale : Hill-Rom® 900 Accella™
Trade name: Hill-Rom® 900 Accella™
Type : LI900B4 with AD315A
Type: LI900B4 with AD315A
Description et identification du produit: Lit avec module SmartSynch™ (communication WI-FI avec solution Hill-Rom)
Product description and identification: Bed with SmartSynch™ module (WI-FI communication solution powered by Hill-Rom)

L'objet de la déclaration décrit ci-dessus est conforme à la législation d'harmonisation de l'Union applicable :
The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

- ***Directive 2014/53/UE (RED)***

➢ ***Documents appliqués***

Article 3.1 a (2014/53/UE) : EN 60601-1: 2006 / Am1:2013 EN 60601-2-52 :2010 / EN 62311 : 2008
(Protection de la santé et sécurité des utilisateurs / Safety & protection of the users'health)
Article 3.1 b (2014/53/UE) : EN 60601-1-2 :2015, DRAFT ETSI EN 301 489-17 V3.2.0 : 2017
(Compatibilité électromagnétique / Electromagnetic compatibility)
Article 3.2 (2014/53/UE) : ETSI EN 300 328 V2.1.1: 2016, ETSI EN 301 893 V2.1.1 :2017
(Utilisation efficace et utilisation optimisée du spectre radioélectrique / Effective and efficient uses of the radio spectrum)

(*)L'organisme notifié EMITECH, 0536 a réalisé l'examen et a délivré le certificat d'examen UE de type limité à l'article 3.2 : N° 18-106502 Ed0
(*) The notified body EMITECH, 0536 performed the examination ***and issued the EU-type examination certificate limited to 3.2 article: N° 18-106502 Ed0***
(*)Accessoires, logiciels et composants : 209546.1.x.x logiciel, Variscite VAR-SOM-SOLO TI WL183XMOD module
(*)Accessories, software and components: 209546.1.x.x software, Variscite VAR-SOM-SOLO TI WL183XMOD module

Signé par et au nom de: Pascal Vibert – Hill-Rom S.A.S.
Signed for and on behalf of: Pascal Vibert – Hill-Rom S.A.S.

Date et lieu : Pluvigner, 18 Juin 2019
Date and place: Pluvigner, 18th June 2019

Signature :
Signature :

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