

INSTRUCTIONS FOR USE

AtmosAir Velaris

Hybrid mattress system



Design Policy and Copyright

® and ™ are trademarks belonging to the Arjo group of companies.

© Arjo 2025.

As our policy is one of continuous improvement, we reserve the right to modify designs without prior notice. The content of this publication may not be copied either whole or in part without the consent of Arjo.

Contents

Foreword.....	5
Intended use.....	6
Safety instructions.....	8
Home care.....	9
Preparations.....	10
Parts designation.....	11
Alternating pressure pump.....	11
Control panel.....	12
Standard and Plus mattress.....	13
Plus Flex mattress with bolsters.....	14
Stretcher (ST) mattress.....	15
Seat cushion.....	16
Control panel.....	17
Run/Standby button and light.....	17
Lock button and light.....	17
Audio off light.....	17
Weight select buttons and lights.....	17
Audio alarm pause button and light.....	17
Power fail light.....	17
System fault light.....	17
Low pressure light.....	18
Skin IQ light.....	18
Product description - Alternating pressure pump.....	19
Repeater light.....	19
Hanging brackets.....	19
Power cable.....	19
Day/Night mode.....	19
Skin IQ port.....	19
Audio on/off switch.....	19
Product description - Mattresses and seat cushion.....	20
All mattress variants.....	20
Handles.....	20
Non-slip base.....	20
Standard and Plus mattresses.....	20
Covers.....	20
Cable management loops.....	20
Mattress connector.....	20
Plus Flex mattress with bolsters.....	20
Covers.....	20
Handles.....	20
Buckles.....	21
Side bolster retaining straps.....	21
Seat cushion.....	21
Handle.....	21
Non-slip base.....	21

Assemble the hybrid mattress system.....	22
Assemble the Standard and Plus mattress.....	22
Assemble the pump.....	22
Assemble the Plus Flex mattress with bolsters.....	23
Assemble the Stretcher (ST) mattress.....	25
Assemble the Seat cushion.....	26
Reactive and active therapy.....	27
Reactive therapy.....	27
Active therapy.....	27
Turn-off and store the hybrid mattress system.....	28
Cleaning and disinfection.....	30
Care and preventive maintenance.....	33
Troubleshooting.....	35
Technical specifications.....	37
Labels pump.....	41
Labels surfaces.....	43
Electromagnetic compatibility.....	45

Foreword

Thank you for choosing the AtmosAir Velaris® hybrid mattress system.

Customer contact information

For questions regarding this product or other Arjo products and services, contact Arjo, an Arjo authorised representative or visit www.arjo.com.

Before using the product

The information in this Instructions For Use (IFU) is important for your safety. You must read and fully understand this IFU before using the product to help prevent potential injury. The information in this IFU is necessary for the proper and safe operation of the product.

Unauthorised modifications on any Arjo product can affect its safety and performance. Arjo will not be held responsible for any accidents or incidents resulting from such modifications to its products.

Service and support

It is necessary to perform routine maintenance to maintain the safety and reliability of the product. See the Care and preventive maintenance section for more information. Contact your local Arjo representative for spare parts.

Serious incident

If a serious incident occurs in relation to this medical device, affecting the user, or the patient, then the user or patient should report the serious incident to the medical device manufacturer or the distributor. In the European Union, the user should also report the serious incident to the Competent Authority in the member state where they are located.

Definitions in this IFU



WARNING

Warning means: Safety warning. Failure to understand and obey this warning may result in injury to you or others.

CAUTION

Caution means: Failure to follow these instructions may cause damage to all or parts of the system or product.

NOTE

Note means: This is important information for the correct use of this system or product.

Intended use

The AtmosAir Velaris hybrid mattress system is intended for use by caregivers¹ in acute care, long-term care and home care facilities, including private homes.

Clinical benefit

The prevention and management of pressure injuries.

The hybrid mattress system is indicated for the prevention and management of pressure injuries. It should be used as part of an individualised, comprehensive pressure injury protocol. This typically includes: repositioning, nutritional support and skin care. The surface should be selected based on full assessment of the patient needs.

The hybrid mattress system represents one aspect of a pressure injury management protocol. All other aspects of care should be considered by the healthcare professional. If existing wounds do not improve, or the patient's condition changes the overall therapy regimen should be reviewed by the healthcare professional.

As guidance the system when used in a non-powered reactive mode is indicated for patients that are deemed to be 'At Risk' of a pressure injury. If the system is used in conjunction with the pump, the patients with a 'higher risk profile' may be considered².

The Velaris Standard mattress, Plus and Plus Flex can all be used in conjunction with the Velaris pump in order to step up therapy from reactive to active.

The Velaris Stretcher and Seat cushion are reactive only and cannot be used in conjunction with the Velaris pump.

The above are guidelines only and should not replace clinical judgement.

The Standard mattress system is for patients within the weight range of 40 kg (90 lb) to 250 kg (550 lb). Heavier patients weighing up to 454 kg (1000 lb) should use the Plus or Plus Flex (bariatric) mattress system.

The hybrid mattress system should only be used for the purpose specified in this Instructions for use. Any other use is prohibited.

Contraindications

In powered active alternating mode with the pump, do not use the hybrid mattress system with patients with an unstable cervical, thoracic and/or lumbar fracture, cervical traction, and skeletal traction. For any other conditions that may be complicated by a moving surface, do not use the hybrid mattress system.

In the non-powered reactive mode without the pump, - It may be possible to use the surface for patients with unstable cervical, thoracic and/or lumbar fracture, cervical traction, and skeletal traction if assessed by a healthcare professional as suitable to do so. Ongoing assessment and continuous monitoring of the patient is advised.

Patient assessment

Facilities should establish regular assessment routines. Caregivers should assess each patient before using the product. The patient weight must not exceed:

- 250 kg (550 lb) for the Standard mattress
- 454 kg (1000 lb) for the Plus (bariatric) mattress
- 454 kg (1000 lb) for the Plus Flex (bariatric) mattress (with removable bolsters)
- 250 kg (550 lb) for the Stretcher (ST) mattress
- 250 kg (550 lb) for the Seat cushion

If the patient does not meet these criteria an alternative medical device/system shall be used.

Expected service life

The expected service life of the AtmosAir Velaris system elements is:

- Mattress – 5 Years
- Seat Cushion – 5 Years
- Pump – 7 Years

¹ Caregiver may be a healthcare professional or lay person who operates this medical device.

² European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guideline. The International Guideline. Emily Haesler (Ed). EPUAP/NPIAP/PPPIA: 2019, Chapter 4 Risk Factors and Risk Assessment

The expected service life of this equipment is subject to preventive maintenance being carried out in accordance with the instructions for care and maintenance found in this Instructions for use.

Safety instructions



WARNING

To prevent injury, always read this Instructions for use before using the product.



WARNING

To prevent tripping or strangulation, always use the cable management loops for the power cable.



WARNING

To prevent risks of injury, the power source should always be accessible. To safely cut off the pump's power supply, remove the plug from the power source.



WARNING

To prevent pressure injury, make sure that the system is assembled correctly.



WARNING

To prevent injury, do not use the mattress as a patient transfer device.



WARNING

To prevent injury and/or unsafe product, do not modify, disassemble or otherwise misuse the product. Do not use unapproved accessories.



WARNING

To prevent electric shock, do not service or maintain the pump while it is in use.



WARNING

To prevent tripping or strangulation, make sure that the tube-set is positioned along side the bed.



WARNING

To prevent tripping, keep cables away from moving bed parts or other possible entrapment areas.



WARNING

To prevent pressure injury, do not let the patient wear clothing with creases, seams etc that may cause localized high pressure. Avoid objects in pockets.



WARNING

To avoid reduced benefits from the mattress, do not place extra layers between the patient and the mattress.

CAUTION

To prevent damage, do not use sharp objects or electrically heated blankets on or under the system.

CAUTION

To prevent damage, do not expose the product to naked flames, such as cigarettes. This is especially important for the mattress. A leak in the mattress may increase the fire.

CPR

CPR can be initiated immediately according to local protocols (level the bed, disconnect the pump, lower the side rails).

Home care



WARNING

To prevent injury to the patient when operating the hybrid mattress system as a caregiver and as a lay person, make sure that the device is operating according to section Reactive and active therapy on page 27.

If the device is not operating correctly, see section Troubleshooting on page 35.

If the device is still not operating correctly, or if you have concerns, contact the patient's doctor or nursing staff for advice.



WARNING

To prevent entanglement, never leave children or vulnerable persons unattended with the product.



WARNING

To prevent injury, keep children and pets away from the product.



WARNING

To prevent suffocation, keep the bags supplied with this product away from babies and small children.



WARNING

To prevent choking, never leave children unattended near the product. The product includes small parts that may present a choking hazard to small children, vulnerable persons and pets if inhaled or swallowed.

CAUTION

To prevent damage to the product, pets and children must be supervised in the vicinity of the product.

Before using the hybrid mattress system in a home environment, make sure that all caregivers, including relatives, have read and understood the instructions in this IFU.

When the hybrid mattress system is in use, make sure that:

- It is kept away from sources of heat and moisture, and protected from dust, lint and dirt.
- The pump is not covered.
- The operational environment meets the requirements. See section Operating conditions on page 37.

When the hybrid mattress system is not in use, make sure that:

- No children can access it.
- No pets can come into contact with it.
- The storage environment meets the requirements. See section Transport and storage on page 37.

Preparations

Bed frame recommendation

The mattress range is designed to be used on Arjo bed frames. See Measurements and compatibility on page 38 for compatible Arjo bed frames and mattress dimensions. The Standard, Plus and Stretcher (ST) mattresses may also be used with other bed frames or trolleys (non-Arjo).

The Plus Flex mattress and bolsters may only be used with the Arjo Citadel Plus bed frame.

The clinician or caregiver should assess the needs and determine which mattress and bed frame to use. See the bed frame IFU for compatible mattress sizes.

Actions before first use

1. Check the package for damage. If the package looks damaged, contact the transport agency. Do NOT use the product.
2. Read this IFU.
3. Check that all parts are in place. Compare with Parts designation in this IFU. If any part is missing or damaged - do NOT use the product.
4. Recycle the packaging according to local regulations.
5. Store the IFU in a designated area where it is easily accessible at all times.

Actions before every use

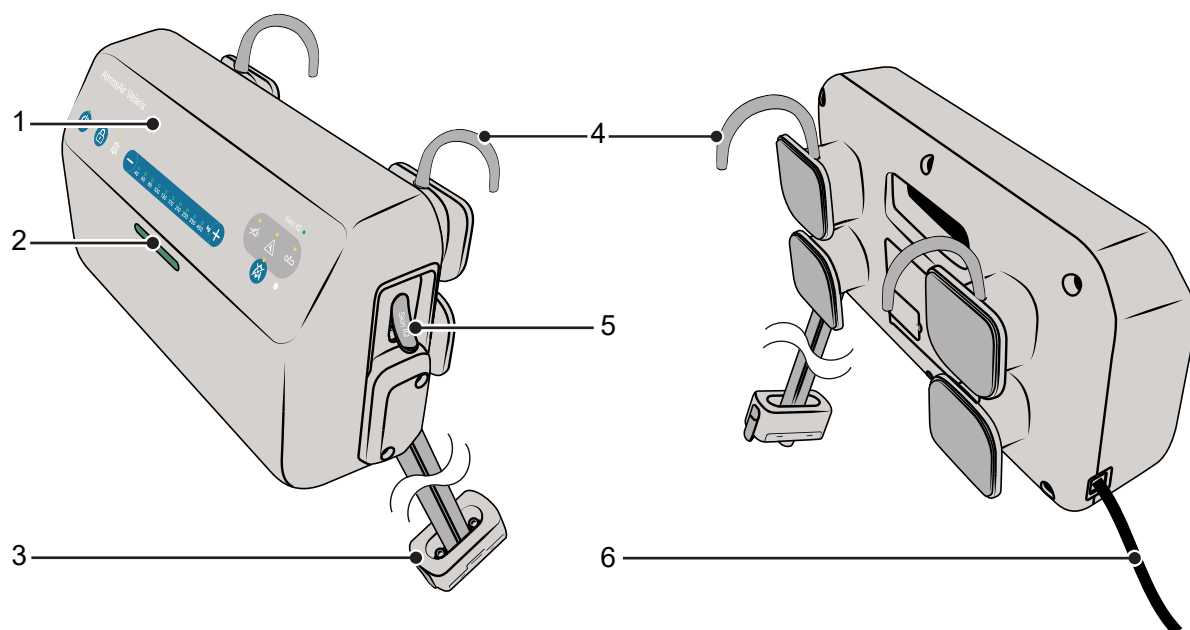
Inspect the hybrid mattress system according to section Care and preventive maintenance on page 33. If any part is damaged - do NOT use the product.

Action after each patient

Clean and disinfect the product after each patient according to section Cleaning and disinfection on page 30.

Parts designation

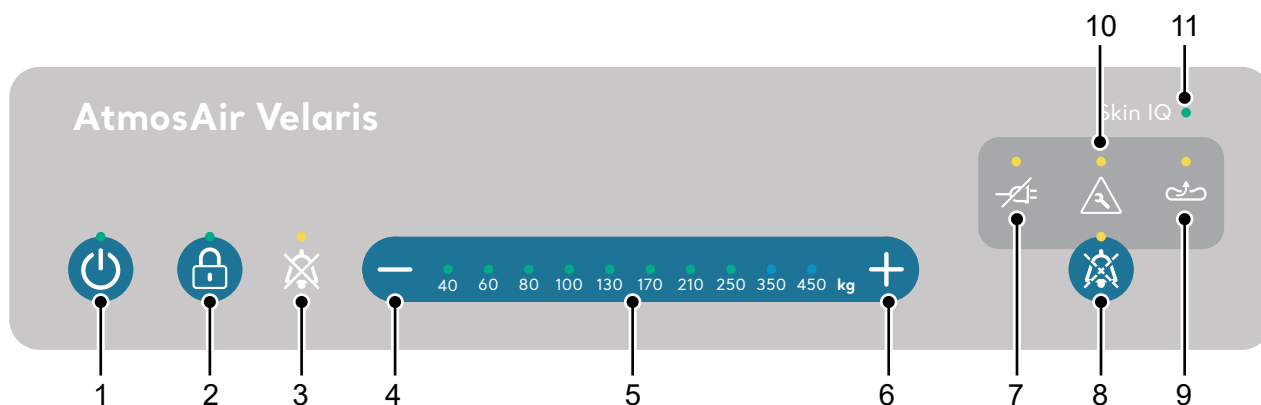
Alternating pressure pump



- 1. Control panel (with lights)
- 2. Repeater light
- 3. Tube-set connector

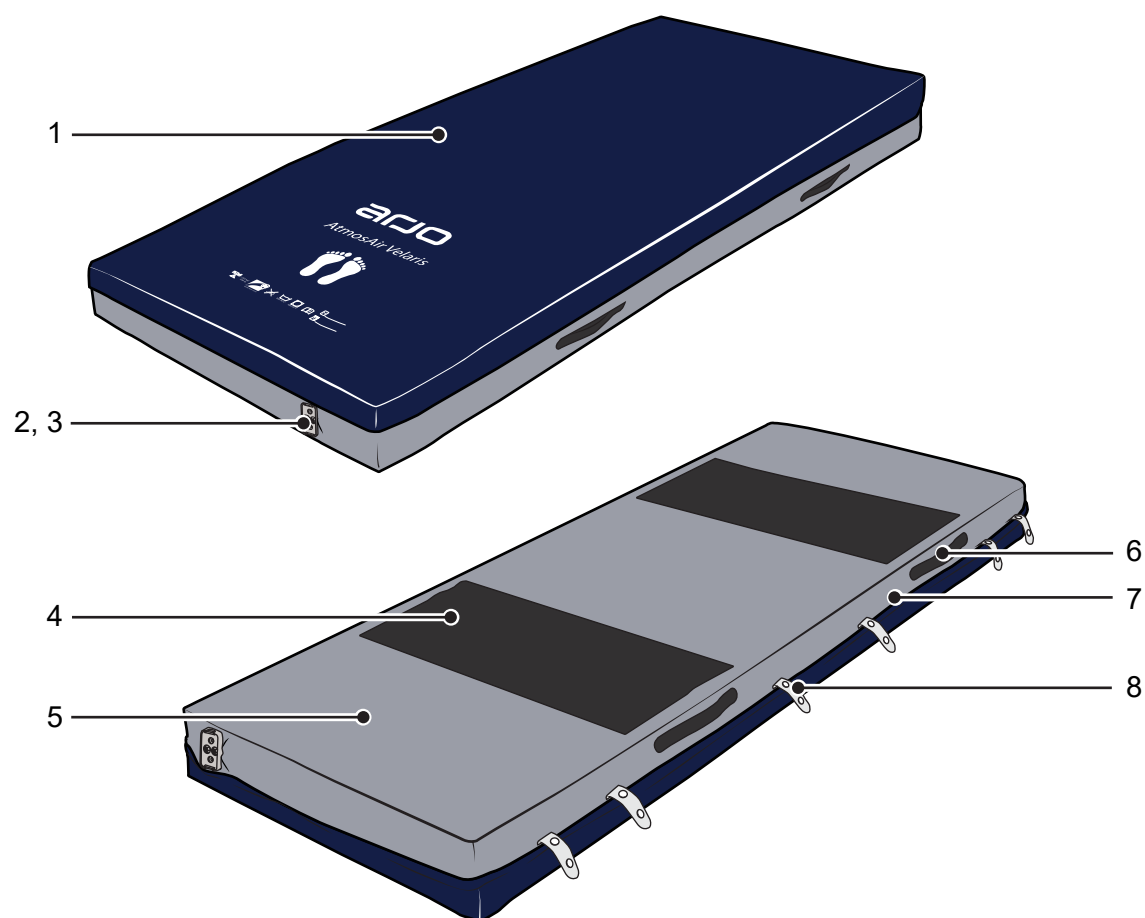
- 4. Hanging brackets
- 5. Skin IQ port
- 6. Power cable

Control panel



- | | |
|---------------------------------|---------------------------------------|
| 1. Run/Standby button and light | 7. Power fail light |
| 2. Lock button and light | 8. Audio alarm pause button and light |
| 3. Audio OFF light | 9. Low pressure light |
| 4. Weight decrease button (-) | 10. System fault light |
| 5. Weight selected light | 11. Skin IQ connected light |
| 6. Weight increase button (+) | |

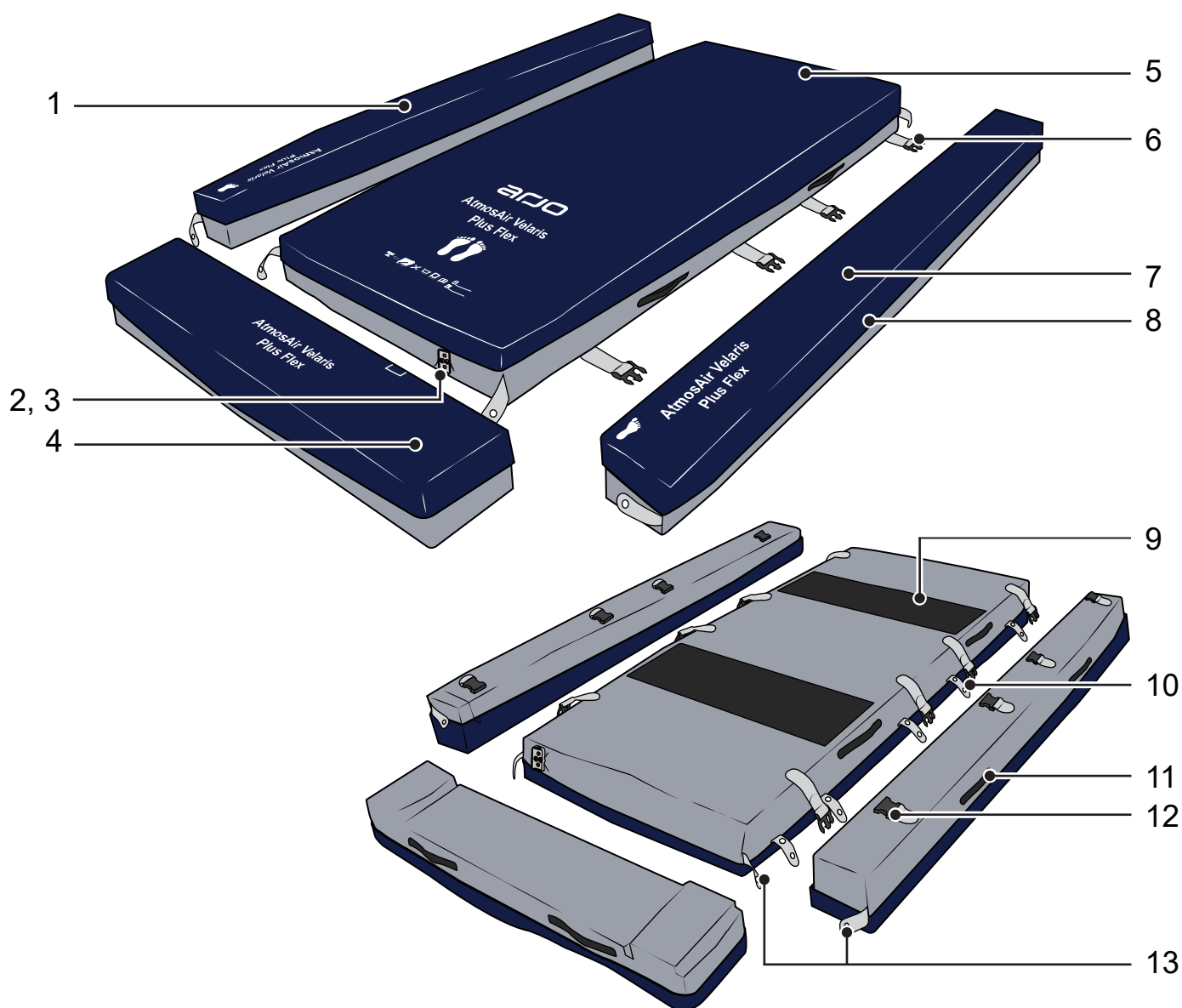
Standard and Plus mattress



- 1. Detachable top cover
- 2. Mattress connector
- 3. Mattress connector cavity
- 4. Non-Slip strips

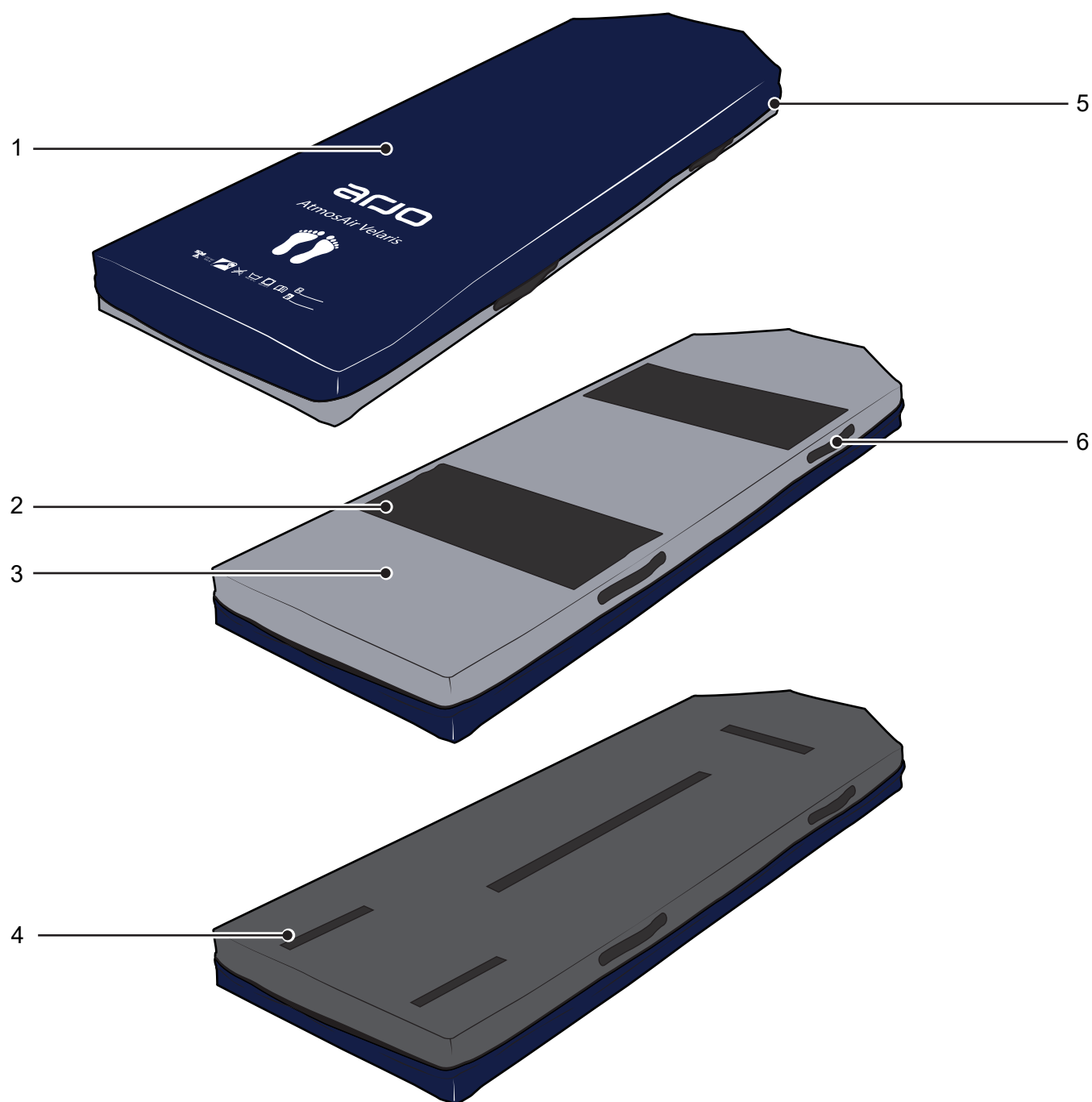
- 5. Detachable bottom cover
- 6. Handles
- 7. Cover attachment zip with zip flap
- 8. Cable management loops

Plus Flex mattress with bolsters



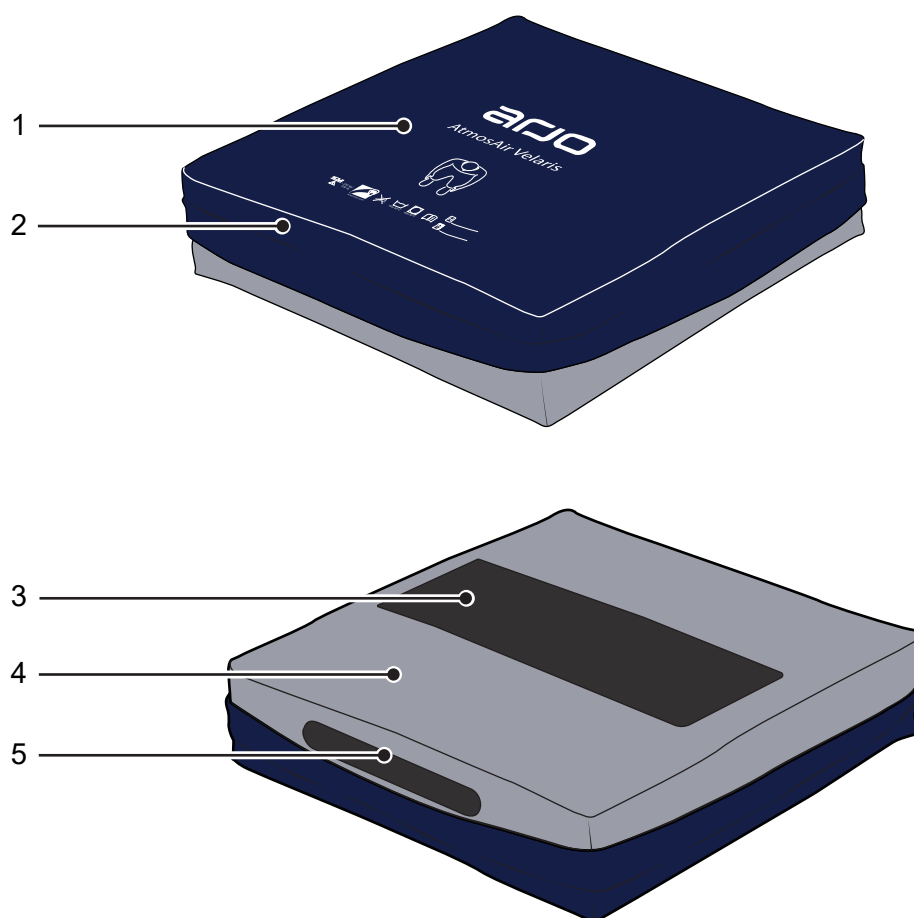
- | | |
|--------------------------------|--|
| 1. Left side bolster | 8. Cover attachment zip with zip flap |
| 2. Mattress connector | 9. Non-Slip strips |
| 3. Mattress connector cavity | 10. Cable management loops |
| 4. Foot bolster | 11. Handles (two on each bolster) |
| 5. Mattress | 12. Buckles (four on each side) |
| 6. Buckles (four on each side) | 13. Side bolster retaining straps (two at the head end, two at the foot end) |
| 7. Right side bolster | |

Stretcher (ST) mattress



- | | |
|--|---------------------------------------|
| 1. Detachable top cover | 5. Cover attachment zip with zip flap |
| 2. Non-Slip strips | 6. Handles |
| 3. Detachable bottom cover | |
| 4. Hook straps (available only for US market codes with suffix US) | |

Seat cushion



1. Detachable top cover

2. Cover attachment zip with zip flap

3. Non-Slip strip

4. Detachable bottom cover

5. Handle (on the back)

Control panel

Run/Standby button and light

The Run/Standby button switches the pump between Run mode and Standby mode.



In Run mode the light is on.

For Standby mode, press and hold the button for two seconds. The light turns off.

Lock button and light

To lock the control panel, press and hold the Lock button for two seconds. When locked the light turns on.



To unlock all control panel buttons, press and hold the Lock button for two seconds. When unlocked the light turns off.

The control panel buttons automatically lock after 60 seconds if no control panel button is pressed.

Audio off light

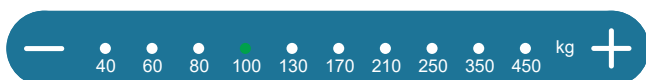
The Audio off light turns on when the Audio notifications and alarms have been permanently disabled.



See Audio on/off switch on page 19.

Weight select buttons and lights

The default weight is set and the light is on at 100 kg (220 lb).



- Press the - button to reduce the patient weight. Minimum value is 40 kg (90 lb).

- Press the + button to increase the patient weight. Maximum value is 450 kg (1000 lb).

For each button press the weight reduces/increases by one step.

The selected weight is indicated by a green light.

The Plus mattress weight settings (350 kg (772 lb) and 450 kg (1000 lb)) are indicated by a blue light when selected.

Always round up the patient's weight to the next higher value.

Audio alarm pause button and light

Press the Audio alarm pause button to silence the audible alarm for 15 minutes. The light turns on.



Press the button again to cancel the alarm pause.

Power fail light

If a power failure is detected the power failure light turns on and an alarm sounds.



Active (alternating) therapy is not possible during power failure conditions.

NOTE

To turn the pump off and cancel the alarm during a power outage, press and hold the run/standby button for two seconds.

System fault light

If an internal fault of the pump is detected during Built-In Self-Test (BIST) or during therapy, the system fault light turns on and an alarm sounds



Low pressure light

If the mattress fails to achieve the target pressure, the low pressure light turns on and an alarm sounds.



Skin IQ light

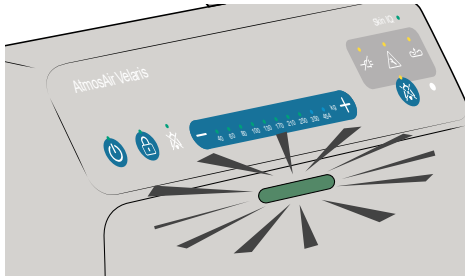
The Skin IQ light turns on when a Skin IQ coverlet is connected to the Skin IQ power outlet port.



Product description - Alternating pressure pump

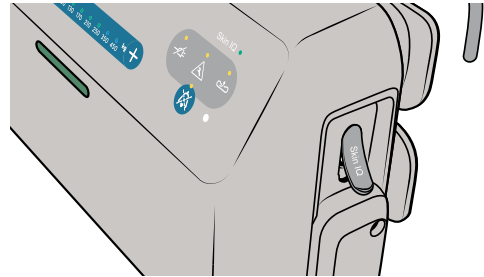
Repeater light

During normal operation the repeater light is on and green. During a fault condition, the repeater light will turn yellow.



Skin IQ port

Only use the Skin IQ port with the Skin IQ power cable to provide power to the Skin IQ coverlet.

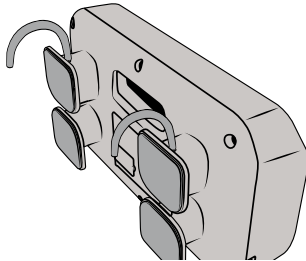


See Allowed combinations on page 38.

For instructions on how to use Skin IQ, see the Skin IQ IFU.

Hanging brackets

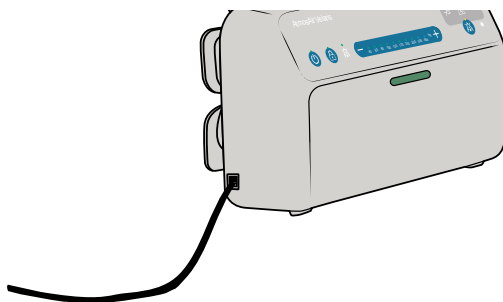
Use the hanging brackets to mount the pump at the foot end of the bed.



The pump can also be placed on a flat surface near the bed and the mattress connector.

Power cable

Position the power cable in the cable management loops on the left side of the mattress.



See Cable management loops on page 20.

Day/Night mode

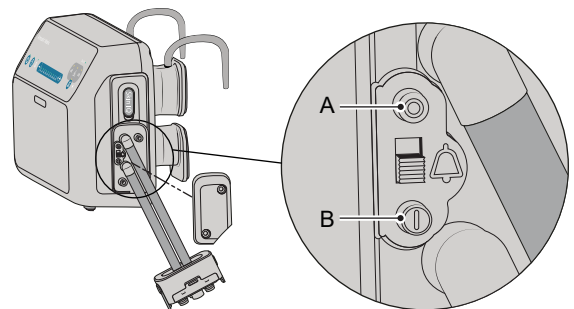
A light sensor automatically reduces the brightness of the pump lights in low ambient light.

Audio on/off switch

The Audio on/off switch disables all pump sound notifications. Use it when it has been determined that audio output could be disturbing for the patient.

The Audio on/off switch is located underneath the side panel cover. The cover can only be removed by a service technician.

Set the switch to position A to disable all audio output. Set the switch to position B to enable all audio output.



NOTE

The Audio on/off switch should only be used by qualified personnel under direction of the responsible organisation.

Product description - Mattresses and seat cushion

All mattress variants

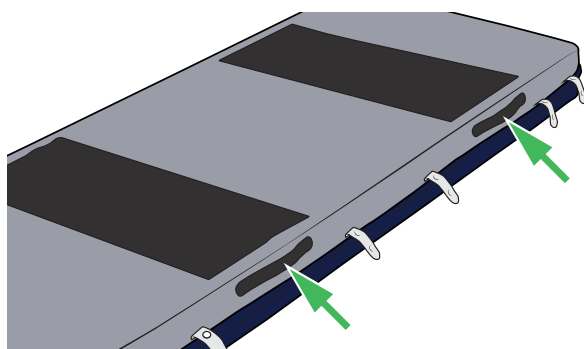
Handles



WARNING

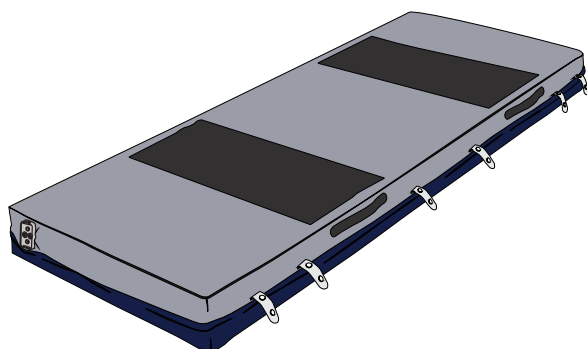
To prevent injury, do not use the mattress as a patient transfer device.

To move the mattress use the four handles on the bottom mattress cover.



Non-slip base

Non-slip strips integrated in the bottom cover prevent the mattress from slipping on the bed frame.



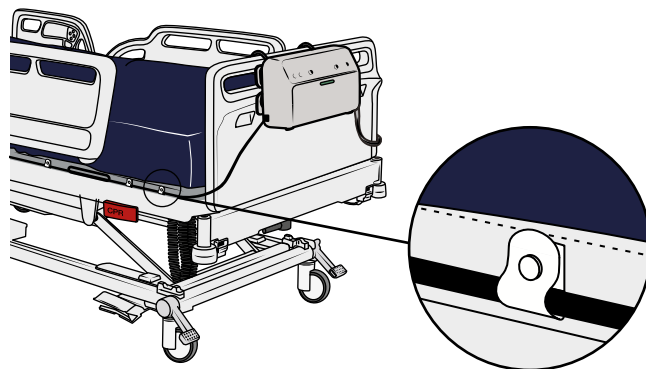
Standard and Plus mattresses

Covers

The mattress top and bottom welded covers are co-joined by a zip.

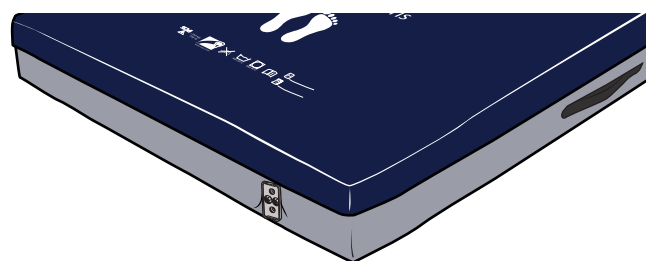
Cable management loops

The cable management loops are used to secure the pump power cable to avoid falling or entanglement.



Mattress connector

The mattress connector is used to connect the mattress to the pump. The mattress connector is located at the foot end of the mattress.



Plus Flex mattress with bolsters

Covers

The Plus Flex mattress and bolster bottom covers are sewn, the top covers are welded and co-joined by a zip.

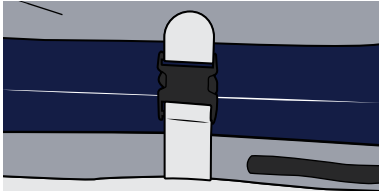
Handles

To move the mattress use the four handles on the bottom mattress cover.

To move a bolster use the two handles on the bottom bolster cover.

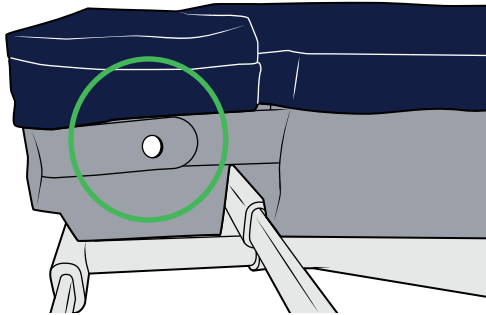
Buckles

The buckles are used to connect the side bolsters to the mattress. There are four buckles on each side of the mattress and corresponding buckles on the side bolsters.



Side bolster retaining straps

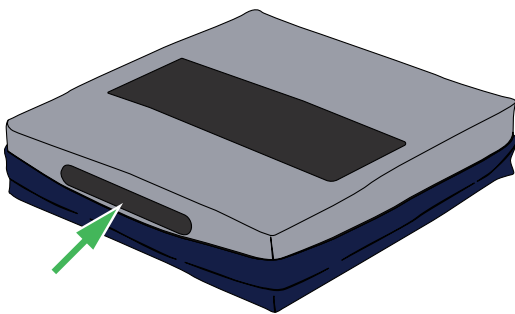
The side bolster retaining straps are used to connect the side bolsters to the mattress.



Seat cushion

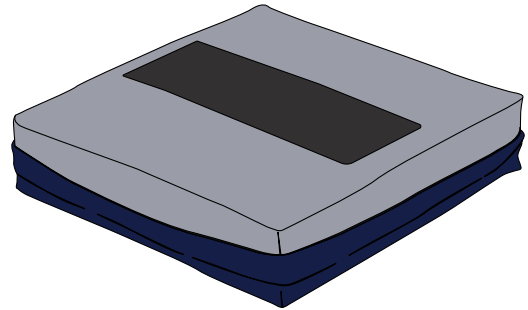
Handle

To move the seat cushion use the handle on the back.



Non-slip base

The non-slip strip integrated in the bottom cover prevents the cushion from slipping on the chair.



Assemble the hybrid mattress system

Assemble the Standard and Plus mattress

1. Remove any existing mattress from the bed frame.
2. Check that there are no protruding sharp objects on the bed frame surface.
- 3.

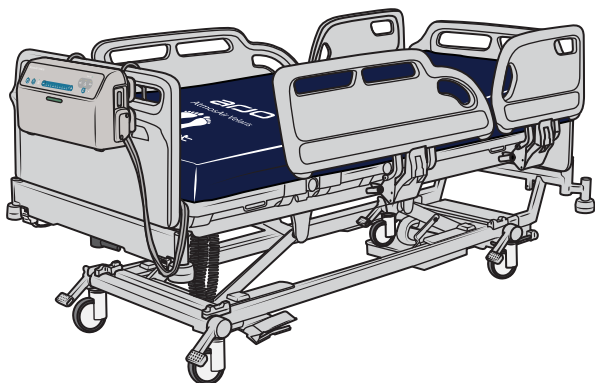


WARNING

To prevent injury by entrapment, always select the correct mattress size for the bed.

Select the correct mattress size for the bed frame. Make sure that there are no gaps to trap the patient's head or body. For mattress sizes, see section Measurements and compatibility on page 38

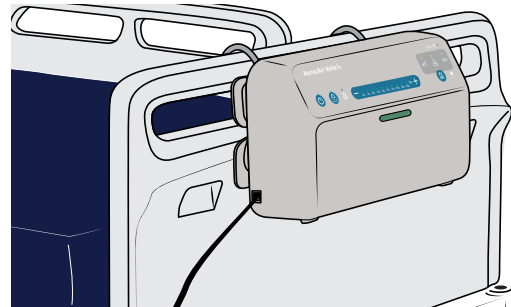
4. Position the mattress on the bed frame. Make sure that the mattress is orientated correctly with the mattress connector at the foot end of the bed frame.



Assemble the pump

1. Unwrap the power cable and tube-set from the pump cable management.

2. Hang the pump at the foot end of the bed.



Make sure the pump is not near a heat source, not in the sun and not covered up.

3. Check that the tube-set connector is not twisted.

- 4.

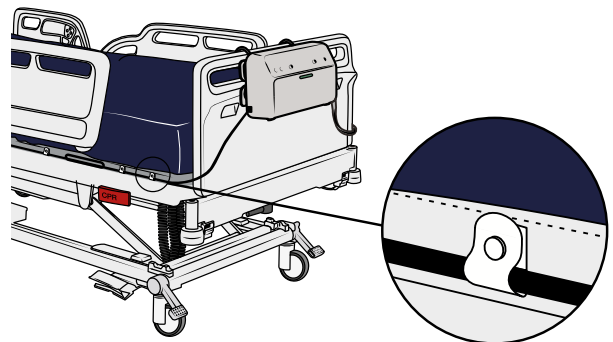


WARNING

To prevent tripping or strangulation, always use the cable management loops for the power cable.

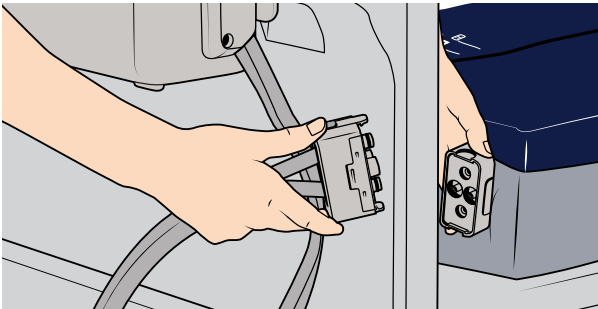
Place the power cable in the cable management loops on the left side of the bottom mattress cover. If the Plus Flex foot bolster will be used, leave slack in cable at the foot end of the bed.

5. Secure the cable using the six cable loops with locking clips.

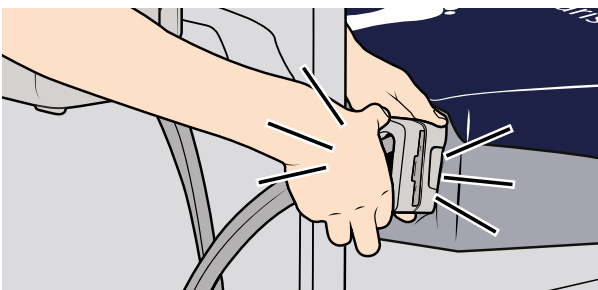


6. Fold down the zip flap over the power cable and cable management loops.

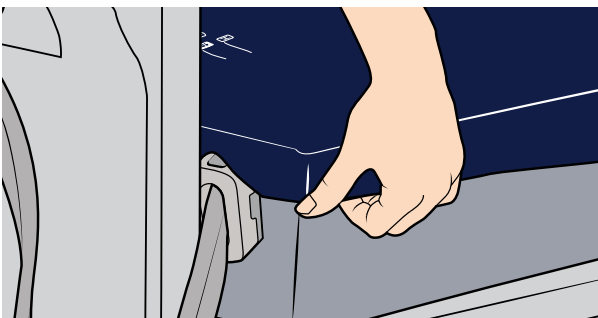
7. Pull the mattress connector slightly out of its cavity.



8. Press the connectors together. Make sure that the pump tube-set connector clicks into place on both sides (double-click).



9. Push the mattress connector back into the mattress cavity and reposition the zip flap.



10. See System start-up on page 27.

Assemble the Plus Flex mattress with bolsters

Only use the Plus Flex mattress and bolsters with a Citadel Plus bed frame.

1. Place the Plus Flex mattress central on the bed frame. For active therapy, follow step 1 on page 22 - 6 on page 22 in Assemble the pump on page 22.

2.



WARNING

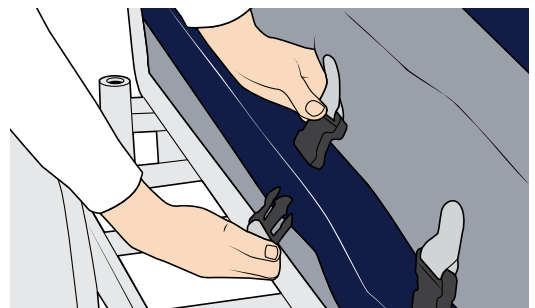
To prevent risk of falling or entrapment, make sure there is a caregiver present on the open side of the bed frame, when assembling or removing the bolsters.

Extend the width of the left side of the Citadel Plus bed frame fully, for instructions see Citadel Plus IFU.

3. Make sure all mattress buckles, four on each side, are placed on top of the extended bed frame.
4. Place the left side bolster on the edge of the mattress, make sure that the foot print is located at the foot end and that the handles are turned upwards.

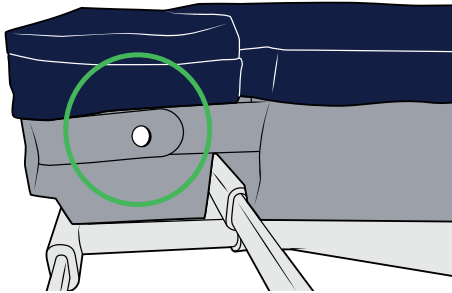


5. Align the buckles on the side bolster with the buckles on the mattress.
6. Attach the four buckles.

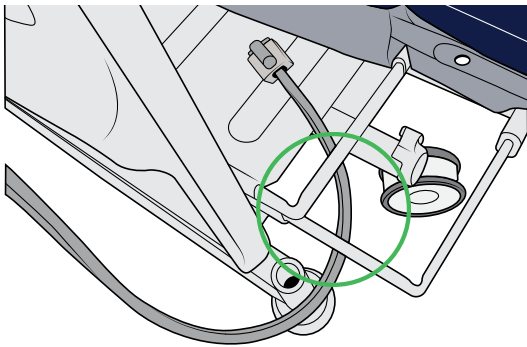


Continued on next page

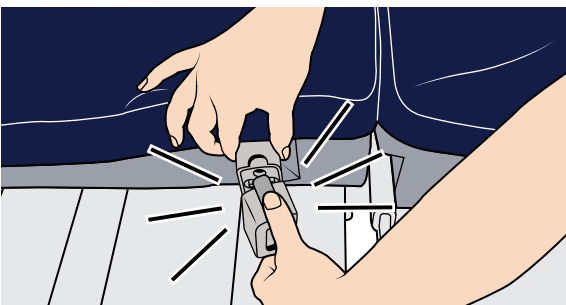
7. Fold down the side bolster onto the bed frame. Make sure the side bolster is firmly fitted in the extension and at level with the mattress.
8. Attach the side bolsters to the mattress, using the locking clips on the retaining straps. There are two at the foot end and two at the head end.



9. Repeat steps 2 - 7 for the right side bolster.
10. Extend the length of the Citadel Plus bed frame fully.
11. Pull the tube-set connector on the pump through the foot end gap on the right side of the bed frame.



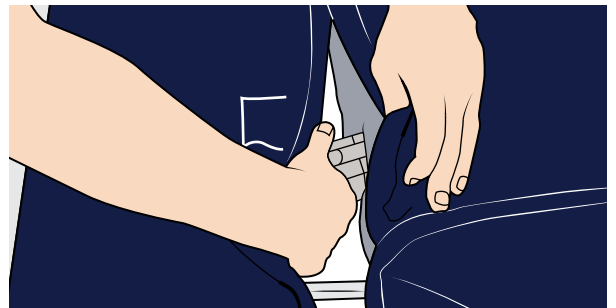
12. Pull the mattress connector slightly out of its cavity.
13. Press the connectors together. Make sure that the pump tube-set connector clicks into place on both sides (double-click).



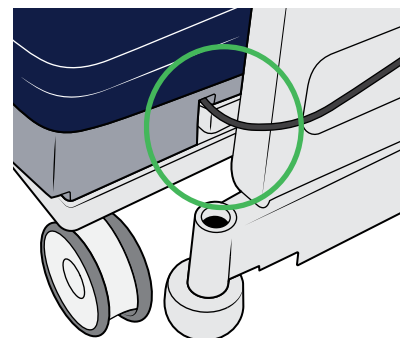
14. Push the mattress connector back into the mattress cavity.
15. Place the foot bolster at the foot end of the mattress.



16. Fold down the foot bolster onto the bed frame. Make sure that the connectors are aligned with the square marking on the top cover of the foot bolster.

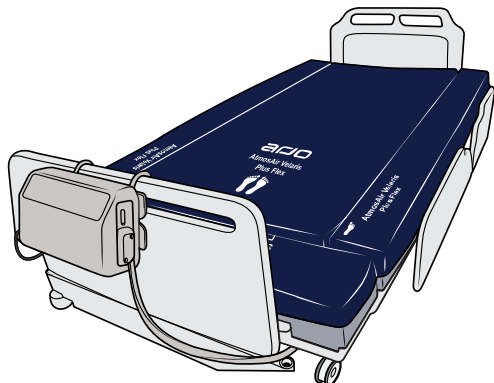


17. Reposition the zip flap.
18. Lift up the foot bolster and place the power cable in the left cavity.



19. For all bolsters, make sure:
 - The bolsters are the same height as the mattress.
 - The print on the top cover is visible.
 - All handles on the bolsters are on the outside.
 - All buckles are securely attached to the mattress.

- All locking clips are attached, on both the head and foot end of the mattress.
- All zip flaps are folded down, covering the zips.



20.



WARNING

To prevent risk of falling or entrapment, make sure that the patient is placed at the centre of the mattress.

Place the patient at the centre of the mattress.

21. Make sure all side rails are up.
22. For active therapy, see System start-up on page 27.

Transport mode



WARNING

To prevent risk of falling or entrapment, make sure there is a caregiver present on the open side of the bed frame, when assembling or removing the bolsters.

The side bolsters and/or the foot bolster might need to be removed and reassembled during transport, for example to fit in an elevator.

Make sure there is a caregiver present at the open side of the bed at all times and make sure that the patient's arms and feet are clear of the bolsters.

Never leave extended sides open. Retract the foot end or the side of the bed frame once each bolster has been removed.

Patient leaving bed



WARNING

To prevent risk of falling when a patient is leaving the bed, make sure there is a caregiver present on the open side of the bed frame.

When the patient needs to leave the bed, make sure there is a caregiver present at the open side at all times.

Assemble the Stretcher (ST) mattress

1. Remove any existing mattress from the trolley frame.
2. Check that there are no protruding sharp objects on the frame surface.
- 3.

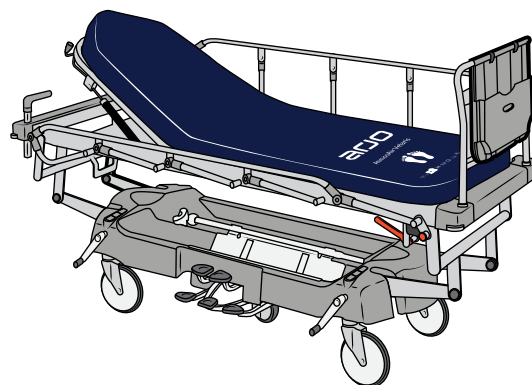


WARNING

To prevent injury by entrapment, always select the correct mattress size for the bed.

Select the correct mattress size for the trolley frame. Make sure that there are no gaps to trap the patient's head or body. For mattress sizes, see section Measurements and compatibility on page 38.

4. Position the mattress on the trolley frame. Make sure that the mattress is orientated correctly with the cut corners at the head end.



Assemble the Seat cushion

CAUTION

To prevent inadequate pressure redistribution, always use the seat cushion in the correct orientation.

CAUTION

To prevent damage, do not use sharp objects on or under the seat cushion.

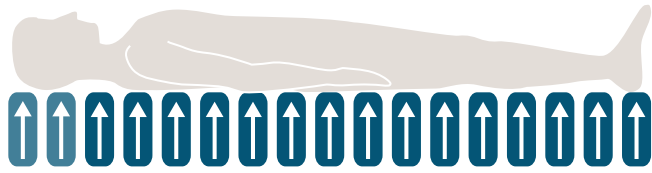
Place the seat cushion on top of the chair seat. Position the cushion with the symbol located at the front of the chair and the carrying handle at the back.



Reactive and active therapy

Reactive therapy

For reactive therapy, do not connect the pump. If the mattress is connected to the pump, disconnect the pump tube-set connector.



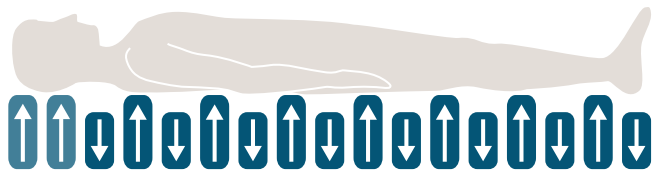
Make sure that the mattress is correctly installed on the bed / trolley frame before delivery of reactive therapy. See Assemble the hybrid mattress system on page 22.

Patient position

Place the patient on the mattress. Make sure that the patient's head is placed on the head end of the mattress.

Active therapy

For active (alternating) therapy, assemble the mattress with the pump. Active therapy is used with the Standard or Plus mattress variants.



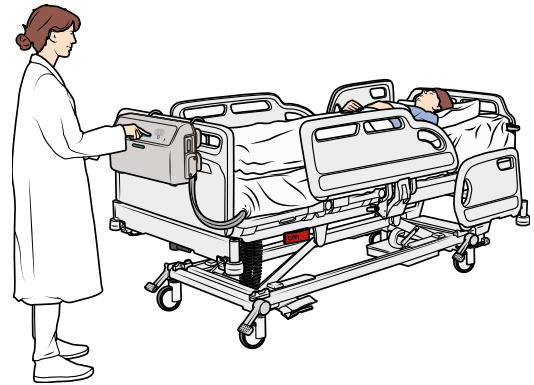
Before starting active therapy, make sure that the hybrid mattress system is assembled correctly with the alternating pressure pump attached. See Assemble the hybrid mattress system on page 22.

Patient position

Place the patient on the mattress. Make sure that the patient's head is placed on the head end of the mattress.

Caregiver position

The caregiver should be positioned in front of the pump during active therapy.



System start-up

1. Connect the pump power cable to a power source. The pump makes a startup tone and runs a self-diagnostic check for about 10 seconds.
2. When the check is completed, the pump immediately starts to deliver active (alternating) therapy with a default weight setting of 100 kg (220 lb).
3. Press the - or + buttons to select the weight. Always round the patient's weight up to the next higher value.

Turn-off and store the hybrid mattress system

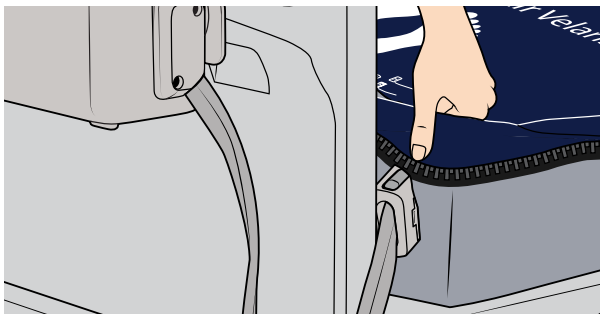
Turn-off and disconnect the pump

1. To stop therapy, press and hold the Lock button for 2 seconds then press and hold the Run/Standby button for 2 seconds.
2. Unplug the power cable from the power source.
3. For Plus Flex: lift out the foot bolster.
- 4.

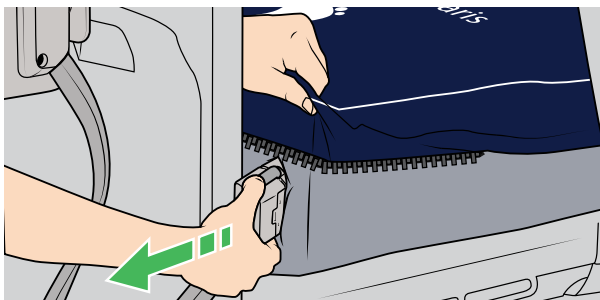
CAUTION

Allow the mattress air cells to equalize to atmosphere before disconnecting pump tube-set connector.

Locate the connector inside the connector cavity, near the foot end of the mattress.



5. Firmly squeeze the two buttons on the top and bottom of the pump connector and pull it away from the mattress connector.



6. Push the mattress connector back into the connector cavity.



NOTE

The mattress can continue to be used, as a reactive surface on the bed frame until active (alternating) therapy is needed, and the pump is reconnected

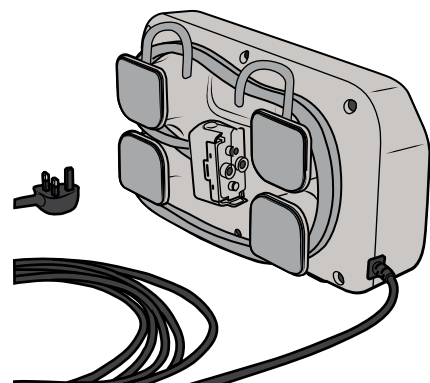
Disassemble the Plus Flex mattress with bolsters

Do not leave extended sides open. For instructions on how to retract the bed frame, see Citadel Plus IFU.

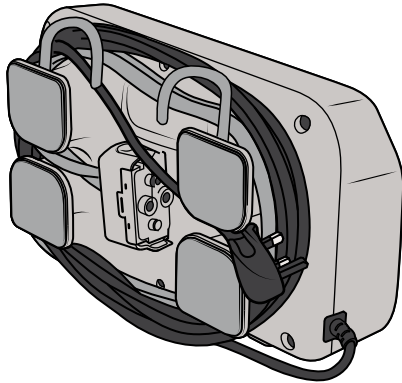
1. Lift out the foot bolster.
2. If applicable, disconnect the pump tube-set connector.
3. Retract the foot end of the bed frame.
4. Detach the retaining straps on the left side bolster.
5. Lift up the left side bolster onto the mattress.
6. Detach the four buckles.
7. If applicable, detach the cable from the cable management loops.
8. Retract the left side of the bed frame.
9. Detach the retaining straps on the right side bolster.
10. Lift up the right side bolster onto the mattress.
11. Detach the four buckles.
12. Retract the right side of the bed frame.

Store the pump

1. Clean and disinfect the pump. See section Cleaning and disinfection on page 30.
2. Wrap the pump tube-set around the hanging brackets anticlockwise.



3. Wrap the power cable around the hanging brackets clockwise.



4. Store the pump in a designated area. For the storage requirements, see Transport and storage on page 37.

Cleaning and disinfection

The product should be cleaned and disinfected at regular intervals and between patients. Follow your local practices for all reusable medical devices.

Contact Arjo Customer Service for any questions regarding the cleaning and disinfection of the product.



WARNING



To prevent eye and skin damage, always use protective glasses and protective gloves. If contact occurs, rinse with plenty of water. If eyes or skin become irritated, contact a physician. Always read the IFU and the Safety Data Sheet (SDS) of the disinfectant.



WARNING

To prevent electrical shock, always disconnect the product from the power source before cleaning and inspecting.



WARNING

To prevent cross-contamination, always follow the cleaning and disinfection instructions in this IFU.



WARNING

To prevent eye or skin irritation, never disinfect the product in the presence of a patient.

CAUTION

To prevent product damage:

- Do not use Phenol-based solutions or abrasive compounds or pads during the disinfection process as these damage the surface coating.
- Do not autoclave or boil any part of the system.
- Do not immerse the pump in water.

Equipment needed

- Protective glasses
- Protective gloves
- Spray bottle with cleaning solution
- Spray bottle with disinfectant solution
- Spray bottle with water
- Cloths

Allowed disinfectants

DISINFECTANT	HYBRID MAT-TRESS SYSTEM	TOP COVER	BOTTOM COVER
Alcohol solution ≤ 70 %	•	•	•
Chlorine solution ≤ 1 % (10 000 ppm) ^a Acceptable use at pH 7-9.	•	•	•
Quaternary ammonium solution 0.192 % (1 920 ppm) Acceptable pH 7-10 only	•	•	•
Quaternary ammonium solution 3-15 % Acceptable for use at pH 7-10 only		•	•
Hydrogen peroxide solution 3-10 % Acceptable for use at pH 5-9 only.		•	
NOTE Rinse thoroughly with clean water to remove residual chemicals after disinfecting with each chemical. Allow to dry before storage.			
^a Chlorine concentrations may vary from 250 ppm to 10 000 ppm depending on local policy and contamination status.			

Clean and disinfect

(26 steps)

Prepare the pump

1. Disconnect the pump from the mattress..
2. Select Standby on the pump unit. Disconnect the pump from the power source.

Clean the pump

3. Put on the protective equipment.
4. Spray the cleaning solution on a clean cloth.
5. Wipe all areas of the pump to remove any deposits or visible dirt.
6. Clean any areas with residual dirt again before continuing with the cleaning and disinfectant process.
7. Use water and a clean cloth to wipe off all traces of cleaning solution.
8. Use a clean dry cloth to remove any excess moisture from the pump.

Disinfect the pump

9. Spray disinfectant solution on a clean cloth and wipe all areas of the pump.
10. Allow time for disinfection according to the instructions provided by the disinfectant manufacturer.
11. Use water and a clean cloth to wipe off all traces of disinfectant solution from the pump.
12. Wipe with a clean dry cloth to remove any remaining moisture.
13. Allow the pump to air dry before reuse.

Clean the mattress / bolster / seat cushion covers

NOTE

The top cover should be assessed for the level of soiling. If this soiling is deemed excessive, the top cover should be washed. The bottom cover should always be cleaned and disinfected by wiping.

14. Spray cleaning solution on a clean cloth and wipe all external areas and handles of the mattress / seat cushion top and bottom covers. Make sure to wipe the mattress connector and the connector cavity thoroughly. Wipe off any dirt with a clean cloth.
15. Clean areas with residual dirt (e.g. handles) with the cleaning solution as needed.
16. Use water and a clean cloth to wipe off all traces of cleaning solution.
17. Use a dry cloth to remove any excess moisture.

Disinfect the mattress / bolster / seat cushion covers

18. Spray disinfectant solution on a clean cloth and wipe all external areas and handles of the mattress / seat cushion top and bottom covers. Make sure to wipe the mattress connector and the connector cavity thoroughly.
19. Allow time for disinfection according to the instructions provided by the disinfectant manufacturer.
20. Use a new cloth soaked in water to wipe off all traces of disinfectant solution from the mattress / seat cushion.
21. Use a dry cloth to remove any excess moisture.
22. Allow the mattress / seat cushion top and bottom covers to air dry.

Wash the mattress / bolster / seat cushion top cover

23. Unzip and remove the top cover from the mattress / seat cushion.
24. Launder the top cover at a maximum temperature of 80 °C (176 °F) with detergent.
25. After washing, allow the top cover to air dry (preferred) or tumble dry at 40 °C (104 °F) or up to 80 °C (176 °F) maximum.
26. Once dry refit the top cover to the mattress / seat cushion.

Care and preventive maintenance

Under normal use the product is subject to wear and tear. Perform the following actions when specified to make sure that the product remains within its original manufacturing specifications.



WARNING

To prevent electric shock, do not service or maintain the pump while it is in use.



WARNING

To prevent malfunction resulting in injury, inspect your product regularly. Always follow the recommended maintenance schedule.



WARNING

To prevent injury and/or an unsafe product, the pump's case must only be removed by qualified service personnel. There are no user-serviceable parts inside the pump or the mattress.

CAREGIVER / FACILITY OBLIGATION

Actions	Before every use or Every week	After each patient
Perform a functionality test	•	
Visually check the control panel	•	
Visually check all electrical connections and power cable	•	
Visually check the mattress connector	•	
Visually check the pump tube-set and connector	•	
Visually check the top and bottom covers	•	
Clean and disinfect		•
Visually check all labels		•
Visually check all zips		•

Before every use or every week

NOTE

If any part is damaged or missing **DO NOT** use the product.

Perform a full functionality test on the hybrid mattress system

1. Connect the pump tube-set to the Standard or Plus mattress. Make sure that the tube-set clicks into place.
2. Connect the pump power cable to a power source. The pump makes a startup tone and runs a self-diagnostic check for about 10 seconds.
3. When the check is completed, the pump Run/Standby and front panel repeater lights turn on. The hybrid mattress system starts delivering active (alternating) therapy with a default weight setting of 100kg (220 lb).
4. If the functionality test fails, contact qualified service personnel

Visually check the control panel

- Check that the control panel is firmly affixed.
- Check that the control panel is undamaged.
- Check that the control panel is legible.

Visually check all electrical connections and power cable

- Check all electrical connections for signs of excessive wear or damage.
- Check the power cable for signs of excessive wear or damage.

Visually check the mattress connector

Check the connector for signs of excessive wear or damage.

Visually check the pump tube-set and connector

- Check the tube-set for signs of excessive wear or damage.
- Check the connector for signs of excessive wear or damage.

Visually check the top and bottom covers

- Remove the top cover and check for signs of wear, tears or strike-through (stained firesock).
- Inspect the bottom cover for signs of wear and tears.

After each patient

Clean and disinfect

The hybrid mattress system has to be cleaned and disinfected. For further instructions, see section Cleaning and disinfection on page 30.

Visually check all labels







Check that all labels are attached on the hybrid mattress system according to section Labels pump on page 41 and Labels surfaces on page 43. If any label is missing, contact Arjo Customer Service.

Visually check all zips


- Check that all zips are undamaged and not loose.
- Check that the zip puller is not missing.

Troubleshooting

The LOW PRESSURE and HARDWARE FAIL alarms are low priority alarms. The POWER FAIL light is an information signal.

PROBLEM DESCRIPTION	POSSIBLE CAUSE	ACTION
LOW PRESSURE  Repeater light on Alarm activation delay: maximum 25 minutes for mattress	<ul style="list-style-type: none"> The mattress to pump connector is not correctly connected. There is a leak in the pneumatic system 	<ol style="list-style-type: none"> Check that the tube-set connector is correctly connected to the pump - an audible click should be heard. Contact qualified service personnel.
POWER FAIL  All other lights are off Alarm activation delay: Immediate	<ul style="list-style-type: none"> Power source removed, switched off or disconnected Power outage 	<ol style="list-style-type: none"> Switch power source back on or reconnect. Wait for power to be restored. Press and hold the run/standby button to cancel the alarm
HARDWARE FAIL  Repeater light on Alarm activation delay: 10 Seconds after power-up. At any time during normal operation	<ul style="list-style-type: none"> On initial power up During Normal operation, after successful start-up. 	<ol style="list-style-type: none"> Internal hardware fault, replace pump Select Standby, remove power source. Re-power and if pump fails BIST replace pump.
LOCK MODE 	The pump has been put into Lock mode.	Press and hold the Lock button for more than 2 seconds. The Lock button light is off and all buttons are unlocked
AUDIO ALARM PAUSE  Alarm activation delay: Max 15 minutes	The pump audio alarm has been paused during LOW PRESSURE OR HARDWARE FAIL condition.	<p>If the fault condition clears, the audio alarm pause is reset and the light is off.</p> <p>After 15 minutes, the audio alarm pause will reset and the light is off. If the fault condition persists, the audio alarm sounds again.</p>
AUDIO OFF 	During a fault condition, if there is no audio alarm and the AUDIO OFF light is lit. The audio on/off switch is set to off position.	If it is required for Audio alarms and notifications to be activated a qualified technician can set the Audio on/off switch to ON.

Continued on next page

PROBLEM DESCRIPTION	POSSIBLE CAUSE	ACTION
SKIN IQ 	The Skin IQ is connected but blower is not operational.	Replace Skin IQ coverlet. Replace control PCBA.

Technical specifications

GENERAL DATA - PUMP	
Model:	AtmosAir Velaris
Case material:	PC ABS
Part number:	633xxx (xxx is determined by the type of mains lead fitted. Please refer to rear label for actual part number)
Size:	337 x 107 x 200 mm (13.3 x 4.2 x 7.9 in)
Weight:	4.1 kg (9 lb)
Plug Fuse Rating:	5A to BS1362 (UK only)
Degree of protection against electric shock:	Mains Connected: Class II, Double Insulated without Functional Earth Type BF
Degree of protection against liquid ingress:	IP22
Mode of operation:	Continuous
Alternating Mode Cycle Time:	10 minutes

ELECTRICAL DATA	
Supply voltage:	100-230 V
Supply frequency:	50-60 Hz
Power input:	3-46 VA

OPERATING CONDITIONS	
Temperature (Ambient):	5 °C to 40 °C (41 °F to 104 °F)
Relative humidity range:	15 % to 90 % (non-condensing)
Atmospheric pressure:	700 hPa to 1060 hPa
If the pump is stored in conditions outside the operating ranges, allow time for its temperature to stabilise at room temperature before use. Allow a minimum of 8 hours if the pump is stored at -20 °C (-4 °F) or 60 °C (140 °F).	

TRANSPORT AND STORAGE	
Short term (Up to 30 days):	
Temperature (Ambient)	-20°C to 60°C (-4°F to 140°F)
Relative humidity range	0 % to 95 %
Long term (30 days):	
Temperature (Ambient)	0°C to 40°C (32°F to 104°F)
Relative humidity range	0 % to 95 % (non-condensing)
CAUTION To prevent damage to the system: <ul style="list-style-type: none"> • Do not store in direct sunlight. • Store the pump and mattress in the protective bags supplied. • Clean and disinfect the pump and mattress before storage. 	

EXPECTED SERVICE LIFE	
Pump	7 years

END OF LIFE DISPOSAL	
Package	Corrugated cardboard, recyclable.
Product	<ul style="list-style-type: none"> Fabric material used on the mattress or any other textiles, polymers or plastic materials etc. should be sorted as combustible waste. Mattresses at the end of life should be disposed of as waste according to the national or local requirements, which may be landfill or combustion. Pump units that have electrical and electronic components should be disassembled and recycled per Waste of Electrical and Electronic Equipment (WEEE) or in accordance with national or local regulations.

ALLOWED COMBINATIONS	
AtmosAir Velaris Standard	<ul style="list-style-type: none"> Skin IQ® MCM, Coverlet Only Skin IQ® 365, Coverlet Only
AtmosAir Velaris Plus	<ul style="list-style-type: none"> Skin IQ® 1000, Coverlet Only
AtmosAir Velaris Plus Flex	<ul style="list-style-type: none"> Skin IQ® 1000, Coverlet Only

MEASUREMENTS AND COMPATIBILITY				
Standard mattress				
Part no	Size mm (in)	Top cover material	Weight kg (lb)	Arjo bed frames
633048	810 X 2000 X 180 (32 x 79 x 7)	Reliant	15 (33)	
633049		Premium		
633020	860 x 1980 x 180 (34 X 78 X 7)	Reliant	15.5 (34)	Contoura 460/480, Minuet 2, Prioma
633026		Premium		
633021	880 x 2020 x 180 (35 X 80 X 7)	Reliant	15.5 (34)	Contoura C880, Enterprise 5000, 8000, 9000, Citadel
633027		Premium		
633022	880 x 2140 x 180 (35 x 84 x 7)	Reliant	16.5 (36)	Enterprise 5000, 8000, 9000 (Extended), Citadel (Extended)
633028		Premium		
633023	900 x 2000 x 180 (35 x 79 x 7)	Reliant	16,5 (36)	
633029		Premium		
633900	1060 x 1980 x 180 (42 x 78 x 7)	Reliant	16,5 (36)	
633901		Premium		
633024	1070 x 2000 x 180 (42 x 79 x 7)	Reliant	17,5 (39)	
633030		Premium		
Plus mattress				
Part no	Size mm (in)	Top cover material	Weight kg (lb)	Arjo bed frames
633025	1220 x 2140 x 180 (48 x 84 x 7)	Reliant	24 (53)	Citadel Plus
633031		Premium		
Plus Flex mattress with bolsters				
Part no	Size mm (in)	Top cover material	Weight kg (lb)	Arjo bed frames

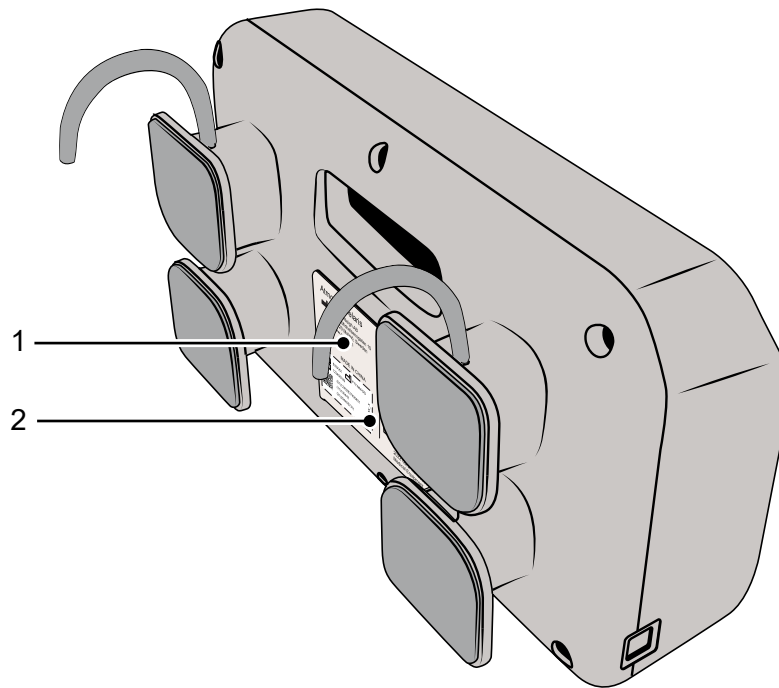
MEASUREMENTS AND COMPATIBILITY				
633902	1220 x 2240 x 180 (48 x 88 x 7)	Reliant	28 (62)	Citadel Plus
633903		Premium		
ST mattress				
Part no	Size mm (in)	Top cover material	Weight kg (lb)	Arjo bed frames
633042 633042US	670 x 1950 x 130 (26 x 77 x 5)	Reliant	10 (22)	Lifeguard Trolley
633043 633043US		Premium		
633044 633044US	660 x 1910 x 130 (26x 75 x 5)	Reliant	9 (20)	
633045 633045US		Premium		
633046 633046US	762 x 1910 x 130 (30 x 75 x 5)	Reliant	10 (22)	
633047 633047US		Premium		
Seat cushion				
Part no	Size mm (in)	Top cover material	Weight kg (lb)	Arjo bed frames
633016	432 x 432 x 100 (17 x 17 x 4)	Reliant	1.5 (3)	Standard size
633018	432 x 432 x 100 (17 x 17 x 4)	Premium	1.5 (3)	Standard size
633017	457 x 457 x 100 (18 x 18 x 4)	Reliant	1.5 (3)	Large Size
633019	457 x 457 x 100 (18 x 18 x 4)	Premium	1.5 (3)	Large Size

TOP COVER SPECIFICATION		
Feature	Reliant cover	Premium cover
Removable Cover	Yes	Yes
Moisture Vapour Permeable MVTR - Index method BS3424-34	10%	4%
Polyurethane coating includes an antimicrobial agent to control microbial deterioration of fabric	Yes	Yes
Fire Retardant ^a	BS 7175: 0, 1 & 5	BS 7175: 0, 1 & 5
Material stretch properties	4-way	4-way
Recommended wash Tempera- tures	80°C (176°F) 15 minutes	80°C (176°F) 15 minutes

Continued on next page

TOP COVER SPECIFICATION		
Feature	Reliant cover	Premium cover
Recommended Drying Temperatures	40°C (104°F) or air dry	40°C (104°F) or air dry
Maximum Drying Temperatures	Max 80°C (176°F)	Max 80 °C (176 °F)
Wipe-down Chemicals ^b	<ul style="list-style-type: none"> • Chlorine at strength of ≤1% (10,000 ppm) at pH 7-9 • Quaternary Ammonium Chloride at 1920ppm at pH 7-10 • Alcohol at 70% concentration. • Phenolic solutions are NOT recommended/suitable. <p>Always rinse thoroughly with clean water after disinfection and dry before storage. Alcohol does not require rinsing with water. Further following disinfecting agents are also considered to be acceptable by the TOP COVER material manufacturer</p> <ul style="list-style-type: none"> • Quaternary Ammonium solution 3-15% at pH range 7-10 • Hydrogen Peroxide solution 3-10% at pH 5-9 <p>Always allow time for disinfection according to the instructions provided by the disinfectant manufacturer.</p>	
Lifetime Expectancy	Standard	Increased by x2.5 times longer when tested with accelerated aging (ISO 1419:1995)
Abrasion resistance	130 000 cycles	260 000 cycles (minimum)
<p>^a For additional flammability testing standards, refer to individual product law tags, if applicable.</p> <p>^b Chlorine concentrations may vary from 250 ppm to 10,000 ppm depending on local policy and contamination status. If an alternative disinfectant is selected from the wide variety available, Arjo recommend that suitability for use be confirmed with the chemical supplier prior to use</p>		

Labels pump











1. Product label - States technical performance and requirements, e.g. input power and input voltage.

2. Serial number label - States the item identification

SYMBOL EXPLANATION	
	Refer to instruction manual/ booklet - Instructions for use should be read.
	CE marking indicating conformity with European Community harmonised legislation. Figures indicate Notified Body supervision.
	Indicates that the product is a Medical Device according to EU Medical Device Regulation 2017/745.
	With respect to electric shock, fire and mechanical hazards only in accordance with CAN/CSA C22.2 No. 60601-1:14 + A2:2022 and ANSI/AAMI ES60601-1:2005 & A1:2012 & A2:2021. MEDICAL EQUIPMENT
	Unique device identifier
	Serial number
	Catalogue number
	Name and address of the manufacturer

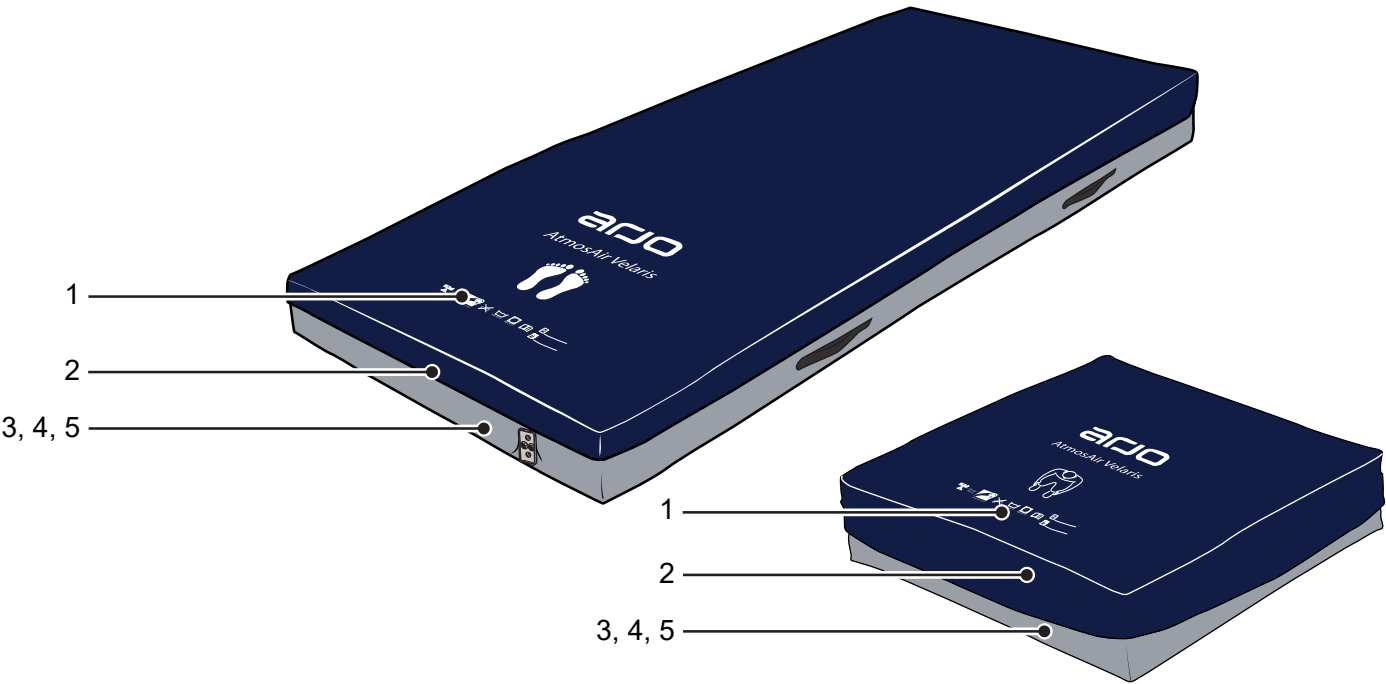
Continued on next page

SYMBOL EXPLANATION	
	Manufacturing date
IP22	2: Protected against access to hazardous parts with a finger. Protected against solid foreign objects of diameter 12.5 mm and greater. 2: Protected against vertically falling water drops when enclosure tilted up to 15°.
	Separate electrical and electronic components for recycling in accordance with the European Directive 2012/19/EU (WEEE)
	Type BF Applied part: Protection against electrical shock in accordance with IEC 60601-1.
	Class II electrical equipment
	Temperature limitations
	Atmospheric pressure limitations
	Relative humidity limitations

UNITED KINGDOM	
	<p>UK marking indicating conformity with UK Medical Devices Regulations 2002 (SI 2002 No 618, as amended)</p> <p>Figures indicate UK Approved Body supervision.</p>
	<p>UK Responsible Person & UK Importer: Arjo (UK) Ltd, ArjoHuntleigh House, Houghton Regis. LU5 5XF</p> <p>For Northern Ireland (NI) CE marking will still apply until further amendment to applicable regulations.</p>

Labels surfaces

Example of mattress



1. Silkscreens




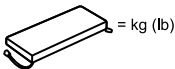






2. Top cover label (inside the top cover) -States the top cover identification and maximum patient weight

3. Surface ID label (inside the bottom cover) - States the product identification and product weight
4. US law tag (inside the bottom cover) - States certification of flammability test

5. Canadian law tag (inside the bottom cover) - States certification of flammability test

SYMBOL EXPLANATION	
	Operating instructions - Consult Instructions for use.
	CE marking indicating conformity with European Community harmonised legislation.
	Indicates that the product is a Medical Device according to EU Medical Device Regulation 2017/745.
	Unique device identifier
	Lot number
	Serial number
	Catalogue number
	Name and address of the manufacturer

Continued on next page

SYMBOL EXPLANATION	
	Manufacturing date
	Maximum patient weight
	Maximum patient weight
 = kg (lb)	Product weight mattress
 Max 80°C	Machine wash at 80°C (176°F)
 Max 80°C	Tumble dry at 80°C (176°F)
	Do not iron
	Wipe clean
	Hospital name
	Date of first use

UNITED KINGDOM	
	UK marking indicating conformity with UK Medical Devices Regulations 2002 (SI 2002 No 618, as amended)
	UK Responsible Person & UK Importer: Arjo (UK) Ltd, ArjoHuntleigh House, Houghton Regis. LU5 5XF For Northern Ireland (NI) CE marking will still apply until further amendment to applicable regulations.

Electromagnetic compatibility

This product complies with the requirements of applicable EMC Standards. Medical electrical equipment needs special precautions regarding EMC and needs to be installed in accordance with the following instructions:

The pump is intended for use in the electromagnetic environment specified below. The customer or the user of the pump should ensure that it is used in such an environment.

- The use of accessories not specified by the manufacturer may result in decreased immunity of the product, or increased emissions from the product. This would affect the products performance.
- Portable and mobile radio frequency (RF) communications equipment (e.g. mobile/cell phones) can affect medical electrical equipment.
- If this equipment needs to be used adjacent to other electrical equipment, normal operation must be checked before use.

For detailed EMC information contact Arjo service personnel.



WARNING

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.




WARNING

The equipment may cause radio interference or may disrupt the operation of nearby equipment. It may be necessary to take action, such as reorienting, relocating the equipment or shielding the location.

GUIDANCE AND MANUFACTURER'S DECLARATION – ELECTROMAGNETIC EMISSION

Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions	Group 1	The pump uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions	Class B	This pump is suitable for use in all establishments including domestic and those directly connected to the public low voltage power supply network.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies	

GUIDANCE AND MANUFACTURER'S DECLARATION - ELECTROMAGNETIC IMMUNITY

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Conducted RF IEC 61000-4-6	3Vrms 6Vrms ISM, 150KHz- 80MHz 80 % AM 1KHz	10Vrms 150KHz- 2300MHz	Portable and mobile RF communications equipment should be used no closer to any part of the pump, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1.2\sqrt{P}$ 150kHz~80MHz $d = 1.2\sqrt{P}$ 80MHz~800MHz $d = 2.3\sqrt{P}$ 800MHz~2.7GHz Where P is the maximum output power rating of the transmitter in watts (w) according to the transmitter manufacturer and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey ^a , should be less than the compliance level in each frequency range ^b . Interference may occur in the vicinity of equipment marked with the following symbol: <div style="text-align: center;">  </div>
Radiated RF IEC 61000-4-3	10 V/m 80 MHz to 2.7 GHz	10 V/m	

NOTE

At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE

These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

- ^a Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the pump is used exceeds the applicable RF compliance level above, the pump should be observed to verify normal operation. If abnormal operation is observed, additional measures may be necessary, such as re-orientating or relocating the pump.
- ^b Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

RECOMMENDED SEPARATION DISTANCES BETWEEN PORTABLE AND MOBILE RF COMMUNICATION EQUIPMENT AND THE PUMP

Rated maximum output power of transmitter - W	Separation distance according to frequency of transmitter - m		
	150 kHz to 80 MHz $d = 1.2\sqrt{P}$	80 MHz to 800 MHz $d = 1.2\sqrt{P}$	800 MHz to 2.7 GHz $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	2.8	3.8	7.3
100	12	12	23

RECOMMENDED SEPARATION DISTANCES BETWEEN PORTABLE AND MOBILE RF COMMUNICATION EQUIPMENT AND THE PUMP

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (w) according to the transmitter manufacturer.

NOTE

At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. Note: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

GUIDANCE AND MANUFACTURER'S DECLARATION - ELECTROMAGNETIC IMMUNITY

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 8 kV contact ± 15 kV air	± 8 kV contact ± 15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/bursts IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines input/output lines not applicable	Mains power quality should be that of a typical domestic commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s)	± 1 kV line(s) to line(s)	Mains power quality should be that of a typical domestic commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5 % μT (>95 % dip in μT) for 0.5 cycle 40 % μT (60 % dip in μT) for 5 cycle 70 % μT (30 % dip in μT) for 25 cycles <5 % μT (>95 % dip in μT) for 5 s	<5 % μT (>95 % dip in μT) for 0.5 cycle 40 % μT (60 % dip in μT) for 5 cycle 70 % μT (30 % dip in μT) for 25 cycles <5 % μT (>95 % dip in μT) for 5 s	Mains power quality should be that of a typical domestic commercial or hospital environment. If the user of the pump requires continued operation during mains power interruptions, it is recommended that the pump is powered from an uninterrupted power supply or battery.
Power frequency (50/60 Hz) Magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical domestic commercial or hospital environment.

NOTE

μT is the a.c. mains voltage prior to application of the test level

Intentionally left blank

Intentionally left blank

Intentionally left blank

AUSTRALIA

Arjo Australia Pty Ltd 4/2
 Southridge St, Eastern Creek NSW 2766
 Phone: 1800 072 040
 E-mail: customerservice-au@arjo.com

BELGIQUE / BELGIË

Arjo Belgium
 Evenbroekveld 16
 9420 Erpe-Mere
 Phone: +32 (0) 53 60 73 80
 Fax: +32 (0) 53 60 73 81
 E-mail: info.belgium@arjo.com

BRASIL

Arjo Brasil Equipamentos Médicos Ltda
 Avenida Piraiba, 352, Sala 18
 Centro Comercial Jubran - Barueri/SP – Brazil
 CEP: 06460-121
 Phone: 55-11-3588-5088
 E-mail: vendas.latam@arjo.com
 E-mail: servicios.latam@arjo.com

CANADA

Arjo Canada Inc.
 90 Matheson Boulevard West
 Suite 350
 CA-MISSISSAUGA, ON, L5R 3R3
 Tel/Tél: +1 905 238 7880
 Free: +1 (800) 665-4831
 Fax: +1 (905) 238-7881
 E-mail: info.canada@arjo.com

ČESKÁ REPUBLIKA

Arjo Czech Republic s.r.o.
 Škrétova 490/12
 120 00 Praha 2
 Czech Republic
 Phone No: +420225092307
 E-mail: info.cz@arjo.com

DANMARK

Arjo A/S
 Industriparken 21A
 2750 BALLERUP, Denmark
 Tel: +45 49 13 84 86
 Fax: +45 49 13 84 87
 E-mail: dk_kundeservice@arjo.com

DEUTSCHLAND

Arjo GmbH
 Peter-Sander-Strasse 10
 DE-55252 MAINZ-KASTEL
 Tel: +49 (0) 6134 186 0
 Fax: +49 (0) 6134 186 160
 E-mail: info-de@arjo.com

ESPAÑA

ARJO IBERIA S.L.
 Poligono Can Salvatella
 c/ Cabanyes 1-7
 08210 Barberà del Valles
 Barcelona - Spain
 Telefono 1: +34 900 921 850
 Telefono 2: +34 931 315 999

FRANCE

Arjo France
 10 Rue Denis Papin
 CS 62535
 59652 VILLENEUVE D'ASCQ CEDEX
 Tél: +33 (0) 3 20 28 13 13
 Fax: +33 (0) 3 20 28 13 14
 E-mail: info.france@arjo.com

HONG KONG

Arjo Hong Kong Limited
 Room 411-414, 4/F, Manhattan Centre,
 8 Kwai Cheong Road, Kwai Chung, N.T.,
 HONG KONG
 Tel: +852 2960 7600
 Fax: +852 2960 1711

ITALIA

Arjo Italia S.p.A.
 Via Giacomo Peroni 400-402
 IT-00131 ROMA
 Tel: +39 (0) 6 87426211
 Fax: +39 (0) 6 87426222
 E-mail: Italy.promo@arjo.com

MIDDLE EAST

Arjo Middle East FZ-LLC
 Office 908, 9th Floor,
 HQ Building, North Tower,
 Dubai Science Park,
 Al Barsha South
 P.O Box 11488, Dubai,
 United Arab Emirates
 Direct +971 487 48053
 Fax +971 487 48072
 Email: Info.ME@arjo.com

NEDERLAND

Arjo Nederland BV
 Biezenwei 21
 4004 MB TIEL
 Postbus 6116
 4000 HC TIEL
 Tel: +31 (0) 344 64 08 00
 Fax: +31 (0) 344 64 08 85
 E-mail: info.nl@arjo.com

NEW ZEALAND

Arjo Ltd
 34 Vestey Drive
 Mount Wellington
 NZ-AUCKLAND 1060
 Tel: +64 (0) 9 573 5344
 Free Call: 0800 000 151
 Fax: +64 (0) 9 573 5384
 E-mail: nz.info@Arjo.com

NORGE

Arjo Norway AS
 Olaf Helsets vei 5
 N-0694 OSLO
 Tel: +47 22 08 00 50
 Faks: +47 22 08 00 51
 E-mail: no.kundeservice@arjo.com

ÖSTERREICH

Arjo Austria GmbH
 Lemböckgasse 49 / Stiege A / 4.OG
 A-1230 Wien
 Tel: +43 1 8 66 56
 Fax: +43 1 866 56 7000

POLSKA

Arjo Polska Sp. z o.o.
 ul. Ks Piotra Wawrzyniaka 2
 PL-62-052 KOMORNIKI (Poznań)
 Tel: +48 691 119 999
 E-mail: arjo@arjo.com

PORTUGAL

Arjo em Portugal
 MAQUET Portugal, Lda.
 (Distribuidor Exclusivo)
 Rua Poeta Bocage n.º 2 - 2G
 PT-1600-233 Lisboa
 Tel: +351 214 189 815
 Fax: +351 214 177 413
 E-mail: Portugal@arjo.com

SUISSE / SCHWEIZ

Arjo Switzerland AG
 Zelglimatte 3 / Haus H
 6260 Reiden
 Switzerland
 Tél/Tel: +41 (0) 61 337 97 77
 Fax: +41 (0) 61 311 97 42

SUOMI

Arjo Scandinavia AB
 Riihitontuntie 7 C
 02200 Espoo
 Finland
 Puh: +358 9 6824 1260
 E-mail: Asiakaspalvelu.finland@arjo.com

SVERIGE

Arjo International HQ
 Hans Michelsensgatan 10
 SE-211 20 MALMÖ
 Tel: +46 (0) 10 494 7760
 Fax: +46 (0) 10 494 7761
 E-mail: kundservice@arjo.com

UNITED KINGDOM

Arjo UK and Ireland
 Houghton Hall Park
 Houghton Regis
 UK-DUNSTABLE LU5 5XF
 Tel: +44 (0) 1582 745 700
 Fax: +44 (0) 1582 745 745
 E-mail: sales.admin@arjo.com

USA

Arjo Inc.
 2349 W Lake Street Suite 250
 US-Addison, IL 60101
 Tel: +1 (630) 307-2756
 Free: +1 (800) 323-1245
 Fax: +1 (630) 307 6195
 E-mail: us.info@arjo.com

JAPAN

Arjo Japan K.K.
 東京都港区虎ノ門三丁目7番8号
 ランディック第2虎ノ門ビル9階
 Tel: +81 (0)3-6435-6401
 Fax: +81 (0)3-6435-6402
 E-mail: info.japan@arjo.com
 www.arjo.com

Address page Rev 35 • 2025-07

At Arjo, we believe that empowering movement within healthcare environments is essential to quality care. Our products and solutions are designed to promote a safe and dignified experience through patient handling, medical beds, personal hygiene, disinfection, diagnostics, and the prevention of pressure injuries and venous thromboembolism. With over 6500 people worldwide and 65 years caring for patients and healthcare professionals, we are committed to driving healthier outcomes for people facing mobility challenges.



ArjoHuntleigh AB
Hans Michelsensgatan 10
211 20 Malmö, Sweden
www.arjo.com

