ALPHA RESPONSE™
Instructions For Use

ARJOHUNTLEIGH

Contents

GENERAL SAFETY

Before you connect the system pump to a mains socket, read carefully all the installation instructions contained within this manual.

The system has been designed to comply with regulatory safety standards including:

- EN60601-1:1990/A13:1996 and IEC 60601-1:1988/A2:1995
- UL60601-1 and CAN/CSA C22.2 No. 601.1-M90

Safety Warnings

- **It is the responsibility of the care giver to ensure that the user can use this product safely.**
- **Whilst the patient is unattended, safety sides should be used based on clinical assessment and in line with local policy.**
- **Alignment of the bed frame, safety sides and the mattress should leave no gap wide enough to entrap a patient's head or body, or to allow egress to occur in a hazardous manner where entanglement with the mains power cable and tubeset or air hoses may result. Care should be exercised to prevent occurrence of gaps by compression or movement of the mattress. Death or serious injury may occur.**
- **Make sure that the mains power cable and tubeset or air hoses are positioned to avoid causing a trip or other hazard, and are clear of moving bed mechanisms or other possible entrapment areas. Where cable management flaps are provided along the sides of the mattress, these should be used to cover the mains power cable.**
- **Electrical equipment may be hazardous if misused. There are no user-serviceable parts inside the pump. The pump's case must only be removed by authorised technical personnel. No modification of this equipment is allowed.**
- **The mains power socket/plug must be accessible at all times. To disconnect the pump completely from the electricity supply, remove the plug from the mains power socket.**
- **The CPR control and/or the CPR indicator tag must be visible and accessible at all times.**
- **Disconnect the pump from the mains power socket before cleaning and inspecting.**
- **Keep the pump away from sources of liquids and do not immerse in water.**
- **Do not use the pump in the presence of uncontained flammable liquids or gasses.**
- **The cover of this product is vapour permeable but not air permeable and may present a suffocation risk.**
- **There is no transport mode on the *Alpha* RESPONSE seat cushion.**
- **Only the pump and mattress combination as indicated by ArjoHuntleigh should be used. The correct function of the product cannot be guaranteed if incorrect pump and mattress combinations are used.**

Precautions

For your own safety and the safety of the equipment, always take the following precautions:

- Placing extra layers between the patient and the mattress potentially reduces the benefits provided by the mattress and should be avoided or kept to a minimum. As part of sensible pressure area care, it is advisable to avoid wearing clothing which may cause areas of localised high pressure due to creases, seams, etc. Placing objects in pockets should be avoided for the same reason.

- Do not expose the system, especially the mattress, to naked flames, such as cigarettes, etc.
- Do not store the system in direct sunlight.
- Do not use phenol-based solutions to clean the system.
- Make sure the system is clean and dry prior to use or storage.
- Never use sharp objects or electrically heated under blankets on or under the system.
- Store the pump and mattress in the protective bags supplied.

Electromagnetic Compatibility (EMC)

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 use of accessories not specified by the manufacturer may result in increased emissions by, or decreased immunity of, the equipment, affecting its 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 ArjoHuntleigh service personnel.

Environmental Protection

Incorrect disposal of this equipment and its component parts, particularly batteries or other electrical components, may produce substances that are hazardous to the environment. To minimise these hazards, contact ArjoHuntleigh for information on correct disposal.

Service Information

ArjoHuntleigh recommend that this system should be serviced every 12 calendar months or, where applicable, when the service indicator is illuminated.

Design Policy and Copyright

1. Introduction

About this Manual

This manual is your introduction to the ***Alpha* RESPONSE™** system. Use it to initially set up the system and keep it as a reference for day-to-day routines and as a guide to maintenance.

About *Alpha* RESPONSE

The ***Alpha* RESPONSE** system is a pressure redistributing mattress replacement, mattress overlay or seat cushion system designed to complement pressure ulcer treatment and prevention protocols. The product offers two therapeutic modes:

- **Active**[1] (**Alternating**) mode which periodically redistributes pressure away from vulnerable areas by inflating and deflating the cells beneath the body every 10 minutes.
- **Reactive**[1] (**Constant Lower Pressure** or **CLP**) mode where the cell pressure is reduced and held constant across the surface in order to lower the pressure exerted on the body.

The product also offers an additional option, **Transport Mode**, where therapy is interrupted and the mattress cells become static in order to assist with patient transport.

The mattresses can be used on standard hospital and normal domestic beds. Beds with divided sections for independent elevation of a patient's head and/or knees can be adjusted with these mattresses in position. The seat cushion can be used on standard hospital and normal domestic chairs.

The pump has three settings for the patient weight range:

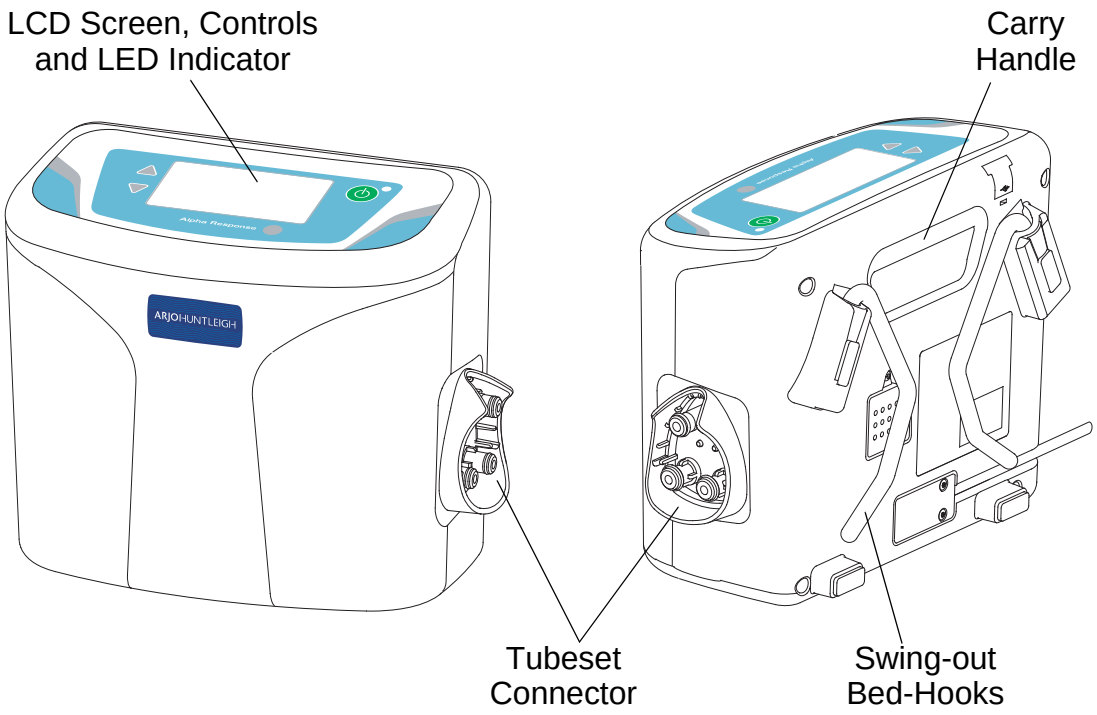
- Light: 40-70 kg
- Normal: 70-120 kg
- Heavy: 120-160 kg

The pump will automatically detect whether a mattress or seat cushion is connected.

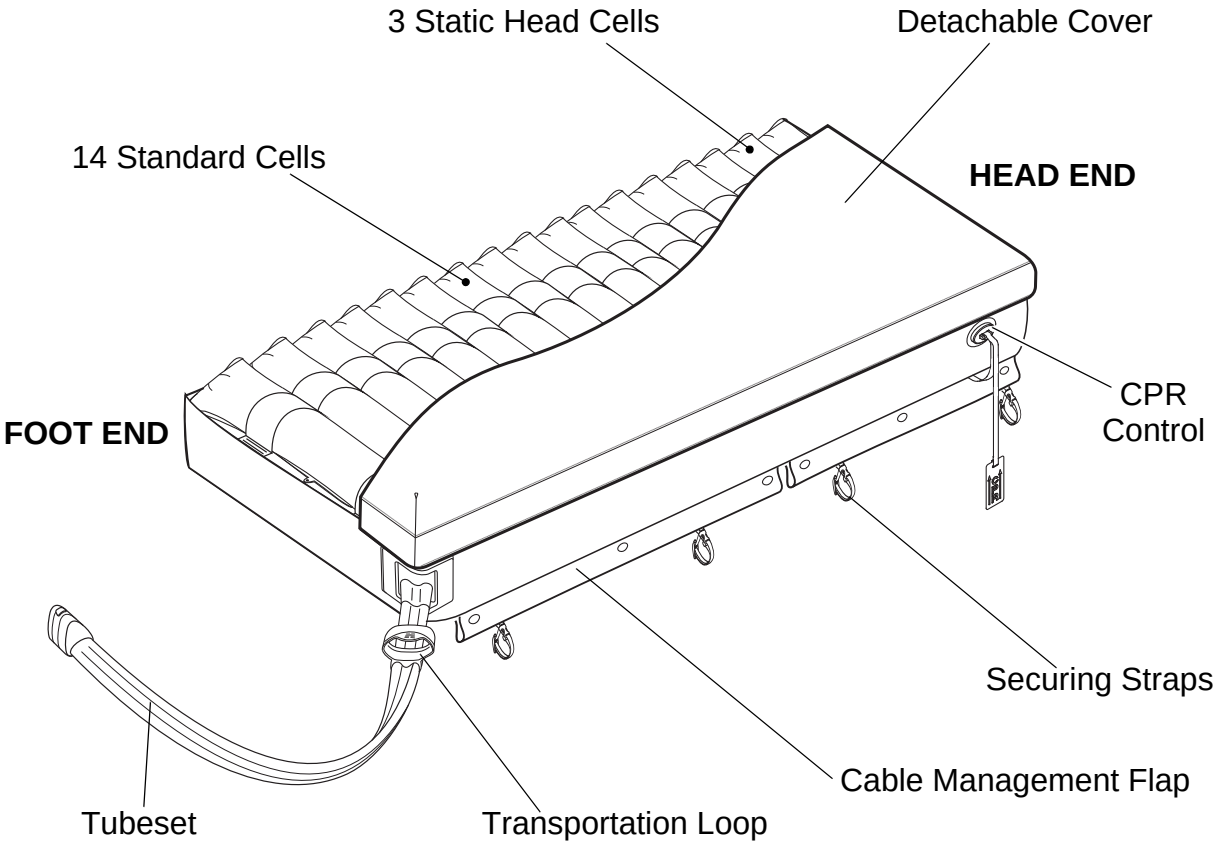
If the backrest on the bed is raised (the patient is in a semi-recumbent position), the system detects the new position and automatically increases the pressure in the mattress cells to provide optimal pressure redistribution to the patient.

1. *International Pressure Ulcer Prevention and Treatment Guideline (2009). www.epuap.org*

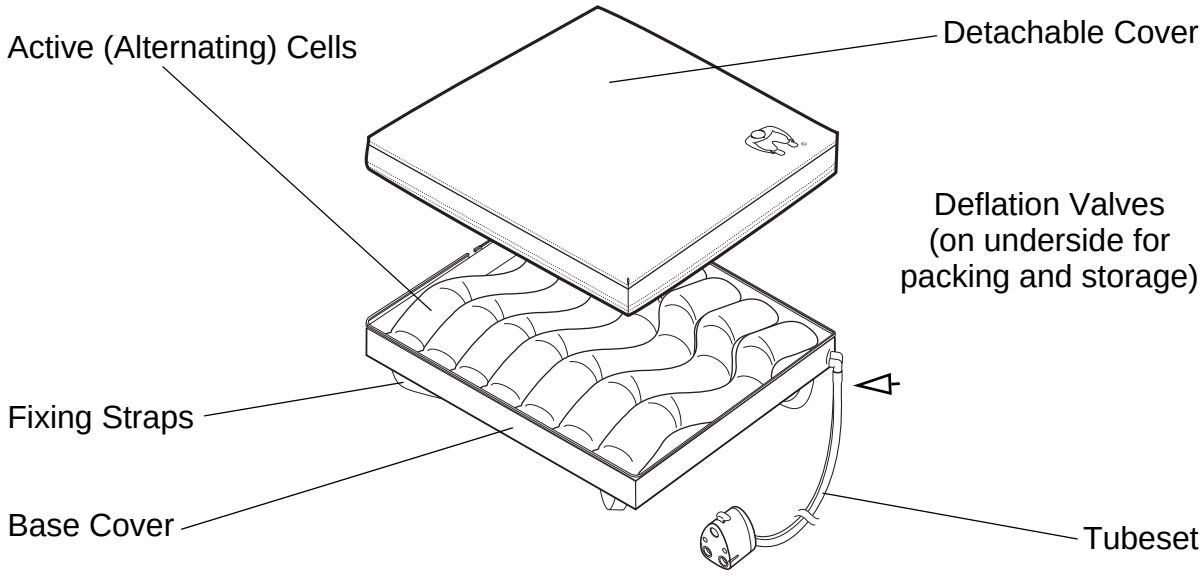
Pump



Mattress: Overlay and Replacement



Seat Cushion



2. Clinical Applications

Indications

The ***Alpha* RESPONSE** systems are indicated for the prevention and management of all categories[1] of pressure ulcer when combined with an individualised monitoring, repositioning and wound care programme.

The ***Alpha* RESPONSE** mattress is designed for patients weighing up to 160 kg (352 lb).

The ***Alpha* RESPONSE** cushion is designed for patients weighing up to 160 kg (352 lb).

Contraindications

Do not use ***Alpha* RESPONSE** systems for patients with unstable spinal fractures.

Cautions

If patients have other unstable fractures, or conditions which may be complicated by a soft or moving surface, advice should be sought from an appropriate clinician before use.

While the ***Alpha* RESPONSE** systems have been designed to manage patients up to the weight limits indicated above, those approaching this upper limit are likely to have additional care and mobility needs and may be better suited to a specialist bariatric system.

Active therapy (**alternating**) cushions may be unsuitable for patients with poor sitting posture or pelvic deformity; advice from a seating specialist should be sought.

Care of the patient when sitting

Seated patients are at increased risk of pressure ulcers particularly if they are immobile or have wounds over the seating area. For optimal outcome, provide a pressure redistributing seat cushion in a chair which promotes a good sitting posture and has a level base seat to support the cushion, in addition to an individualised repositioning programme.

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

The ***Alpha* RESPONSE** *systems represent one aspect of a pressure ulcer management strategy; if existing wounds do not improve or the patients condition changes the overall therapy regimen should be reviewed by the prescribing clinician.*

Mattress and cushion combinations may have different upper weight limits. Cushions should be used in combination with pressure-redistributing mattresses to provide 24-hour therapy.

1. *NPUAP/EPUAP International Pressure Ulcer Guideline, 2009.*

3. Installation

Preparing the Systems for Use

1. Remove the system from the packaging. You should have the following items:
   - ***Alpha* RESPONSE** pump including mains power cable.
   - Either the ***Alpha* RESPONSE** mattress overlay, ***Alpha* RESPONSE** mattress replacement or ***Alpha* RESPONSE** seat cushion, which all have integral tubesets.

Installing the *Alpha* RESPONSE Mattress

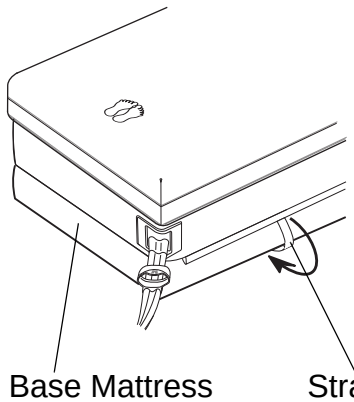
Caution

Do not use the mattress overlay directly on the bed frame.

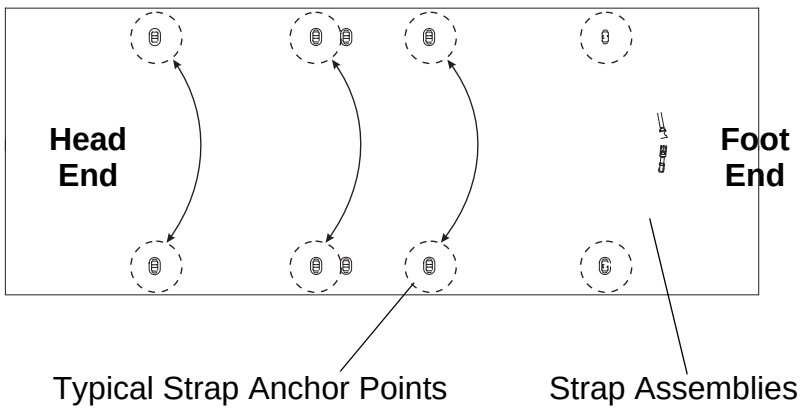
Mattress Overlay

1. Place the overlay on top of the base mattress, with the tubeset located near the foot end of the bed and the CPR at the head end. The mattress cover must be uppermost.
2. Attach the mattress to the bed frame using the 4 strap assemblies on the underside of the mattress replacement:
   - The strap assemblies are attached to 4 of the 5 pairs of anchor points, their position depending on the type of bed frame. One strap assembly must be at the head end of the mattress and a second must be at the foot end. The remaining two can be attached to any of the three pairs of anchor points in the middle of the mattress.
   - Pass each half of the strap assembly under the base mattress, connect them together and pull the strap assembly tight.

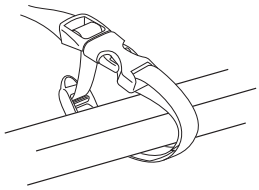
Top View



View on Underside of Mattress



Mattress Replacement



1. Remove the existing mattress from the bed frame and check that there are no protruding bed springs or sharp objects on the bed frame surface.
2. Unroll the mattress onto the bed frame and ensure that the tubeset is located at the foot end of the bed and the CPR at the head end.
3. Attach the mattress to the bed frame using the 8 fastener straps. The 8 fastener straps can be moved to any of the 10 anchor points on the bottom of the mattress replacement. This allows for attaching the mattress to different types of bed frame.

☞ *If the bed has divided sections for independent elevation of a patient's head and/or knees, attach the mattress to the movable parts of the bed frame only.*

☞ *One strap assembly must be at the head end of the mattress and a second must be at the foot end.*

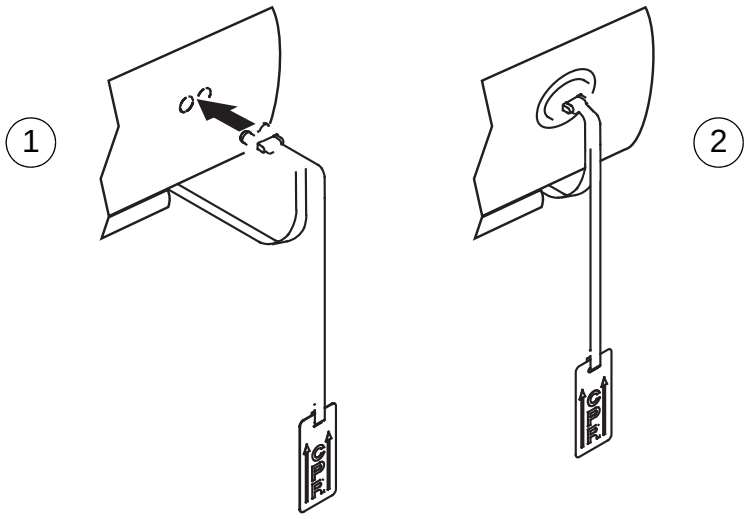
WARNING

The CPR control and CPR indicator tag must be visible and accessible at all times.

Closing the CPR Control

On the mattress overlay or mattress replacement, make sure the CPR control is closed:

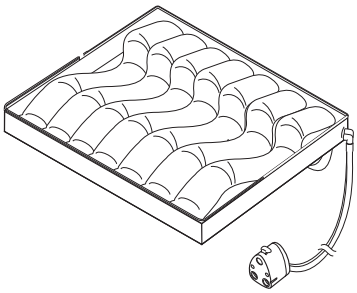
- The CPR control consists of a connector in the side of the mattress with a removable plug fitted.
- Make sure the CPR plug is fully pushed into the connector on the mattress.



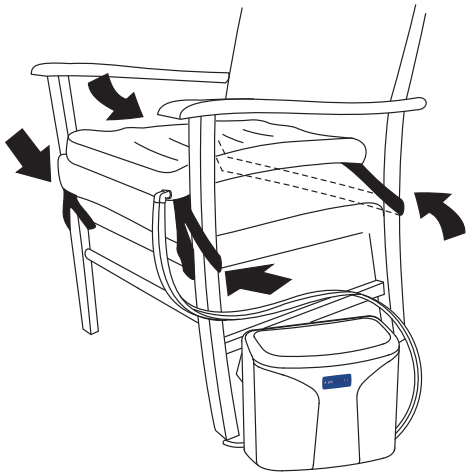
Installing the *Alpha* RESPONSE Seat cushion

Cautions

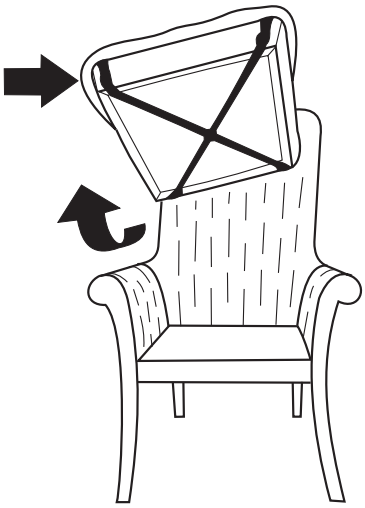
- **Do not use the seat cushion without a foam cushion beneath it.**
- **Always use the seat cushion with the protective top cover.**
- **Always use the seat cushion in the correct orientation.**
- **Avoid trailing cables - make sure that cables and tubes are positioned beneath the chair to avoid causing a hazard.**



1. Check that there are no sharp objects on the chair which may puncture the cushion.
2. Place the cushion on top of the chair surface. Stand in front of the chair and look towards it. Make sure that:
   - The cells are uppermost.
   - The tubeset appears from the front right corner of the cushion.
   - The cells in the seat cushion are in a horizontal position across the chair, with the “V” shape pointing towards the front.
3. Secure the seat cushion to the chair by using the fixing straps as shown in the following illustrations.
4. If the chair is of the open sided construction, then fix the cushion as shown below:



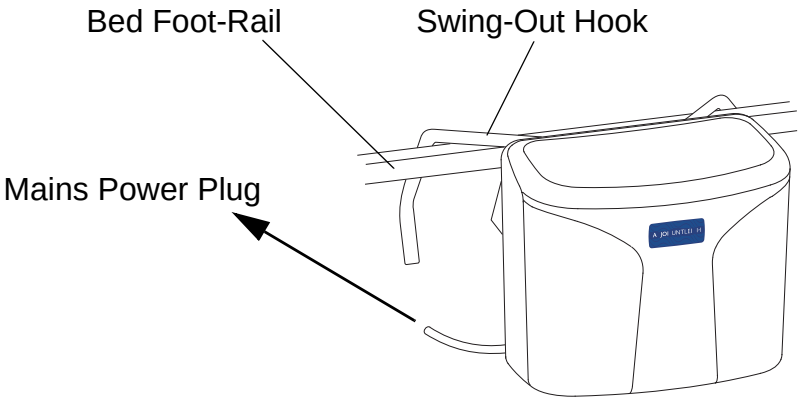
5. If the chair is of the closed side type with a removable seat cushion, fix the seat cushion as shown below:



6. If the chair is of the closed side type with a non-removable seat cushion, then security will rely on the anti-slip base material of the seat cushion.
7. Place the protective cover over the seat cushion and ensure that the logo and the orientation icon, printed on the cover, are uppermost and at the front of the seat.
8. Zip the cover onto the seat cushion, taking care not to trap any material in the zip.

Installing the Pump

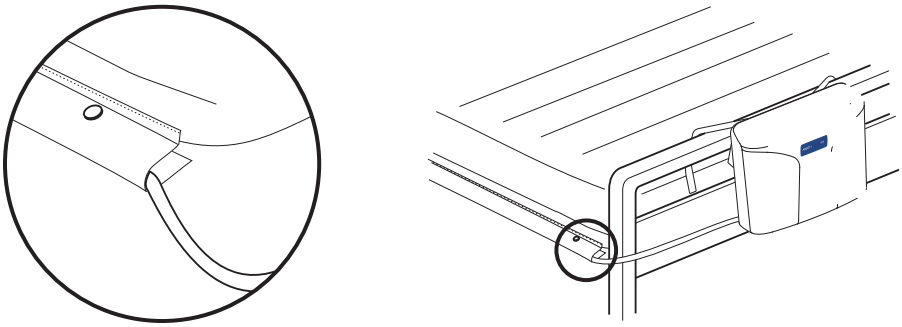
1. Position the pump, feet down, on any convenient horizontal surface or alternatively suspend from the bed foot-rail by means of the swing-out hooks.
2. Insert the mains power plug into a suitable mains power socket.



Cable Management in Mattresses

The mains power cable should be put through one of the cable management flaps which are on each side of the mattress, as follows:

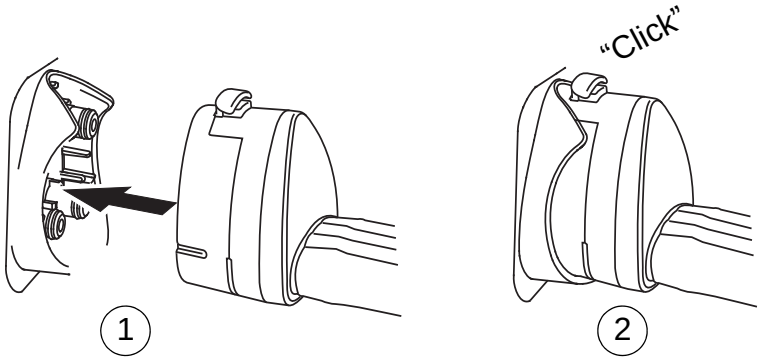
1. Locate one of the cable management flaps.
2. If necessary, open the press studs along the flap.
3. Run the mains power cable along the side of the mattress securing the flap round the cable using the press studs.



Connecting the Tubeset

Make sure the mattress/seat tubeset is not “kinked” or twisted, and push the tubeset connector firmly onto the pump until it clicks into place.

☞ *Make sure that the tubeset is securely connected to the pump.*

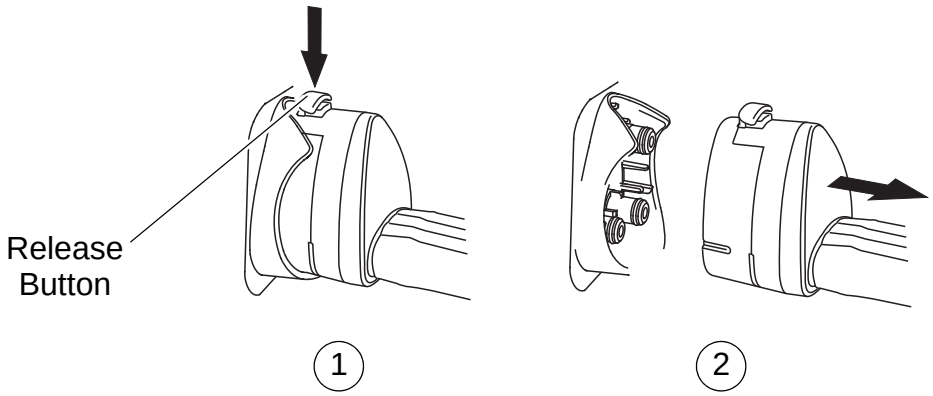


Disconnecting the Tubeset

To disconnect the tubeset at any time, push down the release button on the top of the tubeset connector and pull the tubeset connector away from the pump.

This will put the mattress into **Transport Mode** and will not deflate the mattress. To deflate the mattress, refer to “To Deflate the Mattress” on page 18.

☞ *There is no transport mode on the **Alpha** **RESPONSE** seat cushion.*

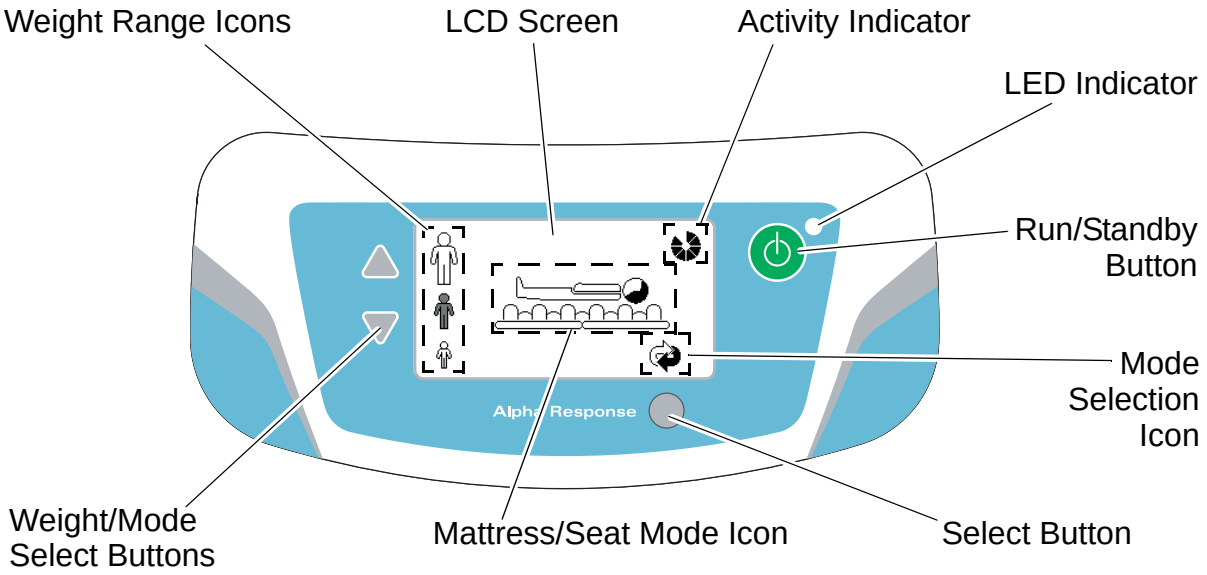


System Operation

The system is now ready for use. Refer to “Controls, Alarms and Indicators” on page 11 and “Mattress - Pump Operation” on page 16 for day-to-day operating instructions.

4. Controls, Alarms and Indicators

Control Panel

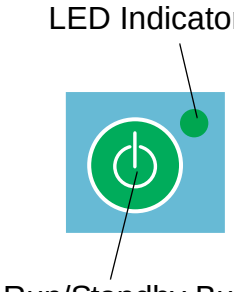


LCD Screen

This displays the operating mode and status of the pump, as follows:

- Mattress/Seat Status.
- Weight Range (or Mattress Mode, if selected by the Mode Selection).
- Mode Selection.
- Activity Indicator.

Run/Standby Button



Press the **Run/Standby** button to put the pump into the **Run** mode; the LED indicator will change to green.

To put the pump into **Standby**, press the **Run/Standby** button for approximately 3 seconds; this prevents accidental operation. The LCD screen will go blank and the LED indicator will change to amber.

After you put the pump in **Standby**, if you press the **Run/Standby** button within approximately 15 seconds the pump will go straight to the **Run** mode and continue the previous therapy; if you wait more than 15 seconds the pump will re-initialise and restart the initial mattress/seat cushion inflation sequence.

If the mains power is disconnected from the pump while the pump is operating, the pump will enter the **Power Fail Alarm** mode (refer to “Alarms” on page 15). Press and hold the **Run/Standby** button; the alarm will stop and the pump will switch off completely.

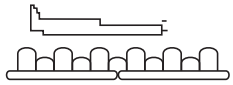
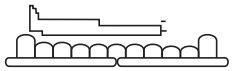
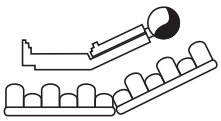
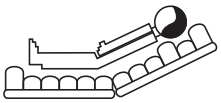
LED Indicator

The multicolour LED adjacent to the **Run/Standby** button indicates the status of the pump, as follows:

Amber (Constant)	External power is applied to the pump, but the pump is in **Standby**.
Green (Constant)	The pump is in **Run** mode and operating.
Red (Flashing)	The pump has detected an alarm condition.

Mattress/Seat Status

There are 5 mattress/seat mode icons which can be displayed, as follows:

	Mattress Backrest Horizontal Active (Alternating) Mode
	Mattress Backrest Horizontal Reactive (CLP) Mode
	Mattress Backrest Raised Active (Alternating) Mode
	Mattress Backrest Raised Reactive (CLP) Mode
	Seat Active (Alternating) Mode

Select Button

The function of the **Select** button depends on the pump change being carried out and the icon being displayed on the LCD screen directly above the button.

Mode Selection Icon

This “double-arrow” icon indicates that the pump is in normal therapy mode, and pressing the **Select** button below it will select either the **Weight Range** icons or the **Mode** icons.

When the **Weight Range** or **Mode** is being changed, the **Mode Selection** icon will change to a “tick” and flash. Pressing the **Select** button under the “tick” will confirm the new selection.

☞ *If the **Select** button is not pressed for 5 seconds when the flashing “tick” is displayed, the requested pump status change will be ignored, the “tick” will revert back to the **Mode Selection** icon and the pump will continue in its current state.*

Weight Range

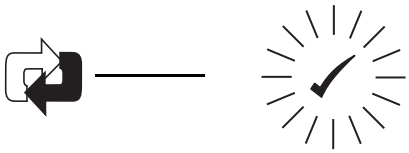
There are three **Weight Range** icons displayed on the LCD screen, the relative size of each "person" icon corresponding to the patient weight range. The selected weight range is indicated by the corresponding icon being solid and the other two icons as outlines.

☞ *Patient comfort and clinical judgement should be used to select the correct weight range setting.*

	**Light Weight** Weight Range: 40-70 kg
	**Normal Weight** Weight Range: 70-120 kg
	**Heavy Weight** Weight Range: 120-160 kg

To change the **Weight Range**, do the following:

1. Press the **Weight/Mode Select** buttons to highlight the new **Weight Range** icon; the new icon will be solid and flashing.
2. The **Mode Selection** icon will change:



3. Press the **Select** button to confirm the new **Weight Range** setting.

Mode

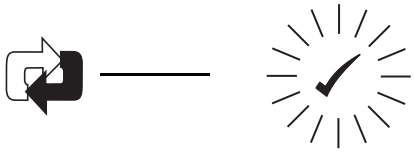
If the **Select** button is pressed during therapy when the **Mode Selection** icon is displayed, then the **Weight Range** icons are replaced by two **Mode** icons. The selected **Mode** is indicated by the corresponding icon being solid and surrounded by a square and the remaining icon as an outline:

	Active (Alternating) Mode Backrest Horizontal
	Reactive (CLP) Mode Backrest Horizontal

To change the **Mode**, do the following:

1. Make sure the **Mode Selection** icon is displayed.
2. Press the **Select** button, and the two **Mode** icons are then displayed.

3. Press the **Weight/Mode Select** buttons to highlight the new **Mode** icon. The new **Mode** icon will be solid with a square border.
4. The new **Mode** icon and square will flash and the **Mode Selection** icon will change:



5. Press the **Select** button to confirm the new **Mode**.
6. Press the **Select** button again and the two **Mode** icons are replaced by the **Weight Range** icons.

Activity Indicator

After the mattress has inflated and the system is in the normal operating mode, an **Activity Indicator** icon is displayed in the top right corner of the LCD screen:

- The **Activity Indicator** rotates in a clockwise direction to show that the pump is operating normally.
- The **Activity Indicator** will stop rotating and start flashing if the pressure changes dramatically e.g. if the patient moves heavily on the mattress or if the **Weight Range** is changed. Once the pump pressure has stabilised around its target pressure the **Activity Indicator** will stop flashing and start rotating again.

Alarms

1. When the pump detects an alarm condition:
   - The corresponding visual alarm is displayed on the LCD screen, as detailed below.
   - The LED indicator on the control panel flashes alternately red and green.
   - An audible alarm is sounded, which increases in pitch if the alarm is ignored.
2. Press the **Run/Standby** button to stop the alarm.
3. Refer to Section 9, Page 25 “Troubleshooting” for the alarms, their possible causes and their remedies.

5. Mattress - Pump Operation

General

These instructions cover the day-to-day operation of the system. Other operations, such as maintenance and repair, should only be carried out by suitably qualified personnel.

☞ *Refer to Section 4, Page 11 "Controls, Alarms and Indicators" for a comprehensive description of the controls and indicators on the pump.*

Installing the System

Before using the ***Alpha* RESPONSE** system make sure the system has been installed correctly in accordance with Section 3, Page 5 "Installation".

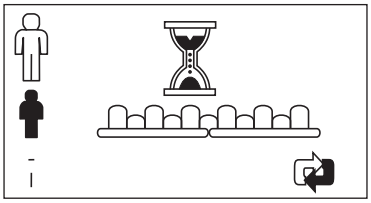
Initial Inflation

1. When mains power is first connected to the pump:
   - The LED indicator is illuminated **amber** to indicate that external power is applied to the pump but the pump is still in **Standby**.
   - The LCD screen is blank.
2. Press the **Run/Standby** button to put the pump into the **Run** mode:
   - The LED indicator changes to **green**.
   - The LCD screen displays the **ArjoHuntleigh** logo for 5 seconds, followed by the ***Alpha* RESPONSE** animated logo for 5 seconds.
   - The pump carries out a self-test routine and initialises itself.
3. At the end of this start-up sequence, the pump starts to inflate the mattress system.

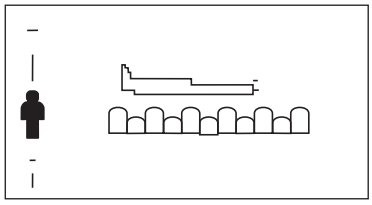
☞ *If no tubeset is connected to the pump, or the tubeset is not connected securely, the LCD screen displays a **No Connection** alarm, which alternates the **No Mattress** and **No Seat** screens, and an audible alarm is sounded. To clear the alarm, connect a mattress or seat tubeset to the pump.*

Mattress Operation

1. Make sure the CPR control on the mattress is closed.
2. At the start of the inflation sequence, the default mattress-inflation screen is displayed.



   - The default patient weight range setting is **Normal**, as indicated by the three **Weight Range** icons.
   - The default cell inflation mode is **Active (Alternating)** and the default setting for the bed frame is with the backrest horizontal, as indicated by the **Mattress/Seat Mode** icon.
   - For the duration of the inflation sequence, the patient body is replaced by an “egg timer” icon.
3. When the mattress inflation is complete, the default mattress-operating screen is displayed:
   - The “egg timer” is replaced by the patient body icon.
   - The **Activity Indicator** is displayed and starts rotating to indicate that the pump is in the **Run** mode.



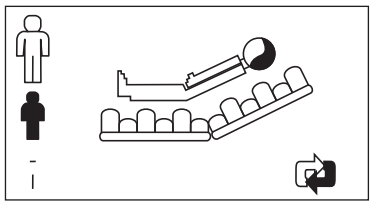
4. The patient can now be put onto the mattress.
5. To change the **Weight Range** setting or put the mattress into **Reactive (CLP)** mode, refer to Section 4, Page 11 “Controls, Alarms and Indicators”.

☞ *These settings can also be changed while the mattress is being inflated.*

Raising the Backrest on the Bed Frame

1. If the backrest on the bed is raised (the patient is in a semi-recumbent position), the system detects the new position and automatically does the following:
   - Increases the air pressure in the mattress cells to provide optimal pressure redistribution to the patient.
   - Changes the mattress icon from a “backrest horizontal” icon to a “backrest raised” icon.

☞ *The screen below shows the mattress in **Active (Alternating)** mode when the backrest is raised.*



2. When the bed frame is put back to the “backrest horizontal” position, the system detects this and automatically does the following:
   - Decreases the air pressure in the mattress cells to the value before the backrest was raised.
   - Changes the mattress icon back to the “backrest horizontal” icon.

Stopping Therapy

To stop the therapy, press and hold the **Run/Standby** button for 3 seconds to put the pump into **Standby**.

- The LED indicator changes to **amber**.
- the LCD screen goes blank.

To Deflate the Mattress

To deflate the mattress:

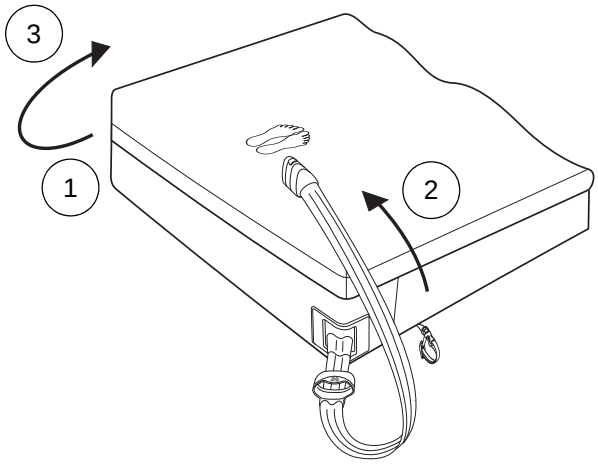
1. Stop the therapy and put the pump into **Standby**.
2. Disconnect the tubeset from the pump (refer to “Disconnecting the Tubeset” on page 10).
3. Activate the CPR control at the head end of the mattress to deflate it (refer to “To Activate the CPR Control” on page 20).

To Store the Mattress

Following deflation:

1. Start rolling the mattress from the foot end towards the head end; stop after **ONE** turn of the mattress.
2. Bring the tubeset connector over the mattress and secure.
3. Continue to roll the mattress from the foot end towards the head end.

☞ *Make sure the mattress is dry before rolling it up.*



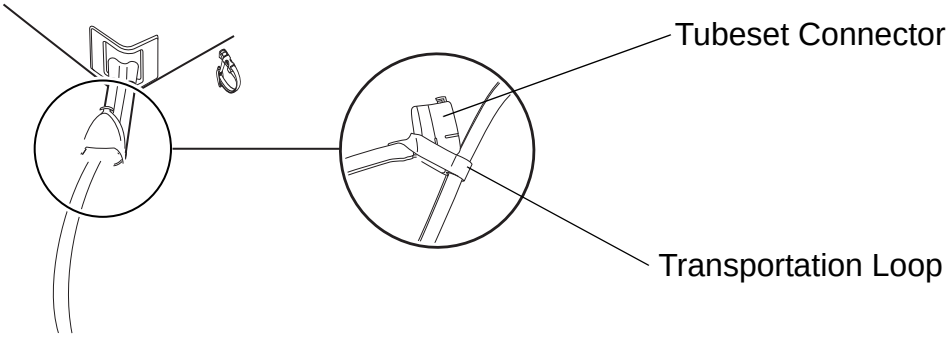
Transport Mode

To transport a patient who is lying on the ***Alpha*** **RESPONSE** mattress:

1. Stop the therapy and put the pump into **Standby**.
2. Disconnect the tubeset from the pump (refer to “Disconnecting the Tubeset” on page 10). This will automatically put the mattress into transport mode.
3. Put the tubeset connector through the transportation loop to prevent any damage to the tubeset while the bed is being moved.

☞ *The patient will remain supported for up to 8 hours on the mattress.*

4. To resume normal operation, reconnect the tubeset to the pump and restart the therapy.



IMPORTANT

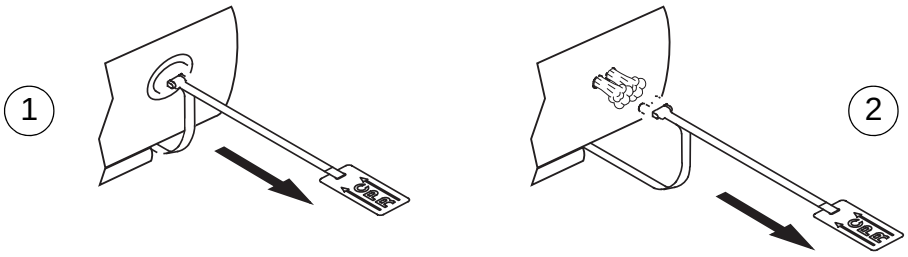
IN THE EVENT OF CARDIAC ARREST

CPR Control In the event of a patient suffering cardiac arrest and CPR (Cardio-Pulmonary Resuscitation) needing to be administered, activate the CPR control to rapidly deflate the mattress:

To Activate the CPR Control Use a quick, firm pull on the CPR tag to remove the CPR plug. The air will be rapidly evacuated from the mattress.

☞ *The plug is fastened to the mattress by a strap.*

☞ *If the pump is operating when the CPR is activated, the* ***Low Pressure*** *alarm may be activated.*

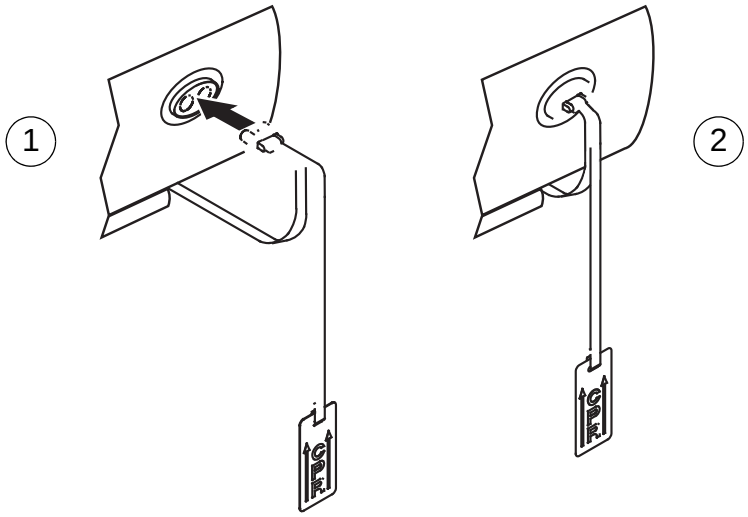


WARNING

The CPR control and CPR indicator tag must be visible and accessible at all times.

To Close the CPR Control Push the CPR plug into the connector on the mattress.

☞ *Make sure the plug is securely fitted.*



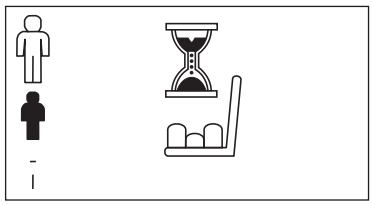
6. Seat Cushion - Pump Operation

General

Refer to the "General" and "Initial Inflation" sections in Section 5, Page 16 “Mattress - Pump Operation”

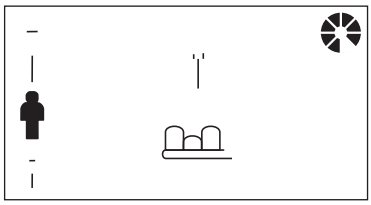
Seat Cushion Operation

1. At the start of the inflation sequence, the default seat-inflation screen is displayed.



- The default patient weight range setting is **Normal**, as indicated by the three **Weight Range** icons.
- The only cell inflation mode is **Active (Alternating)**, as indicated by the **Mattress/Seat Mode** icon.
- For the duration of the inflation sequence, the patient body is replaced by an “egg timer” icon.

2. When the seat cushion inflation is complete, the default seat-operating screen is displayed; the “egg timer” is replaced by the patient body icon.



3. The patient can now sit on the seat cushion.
4. To change the **Weight Range** setting, refer to Section 4, Page 11 “Controls, Alarms and Indicators”.

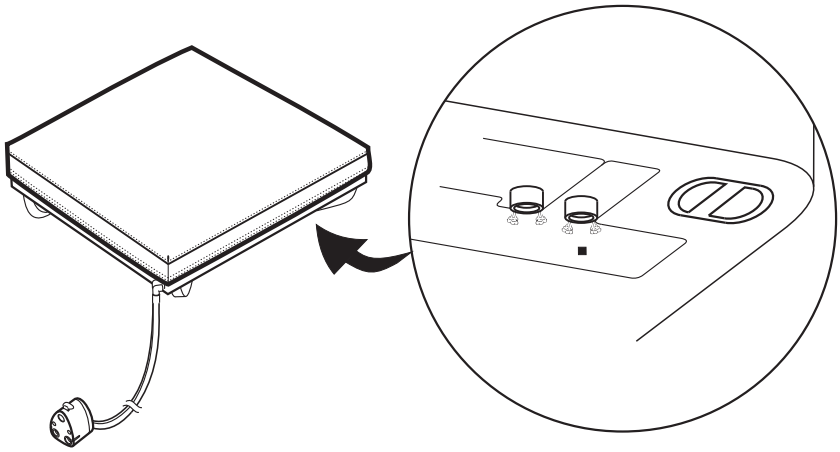
☞ *This setting can also be changed while the seat cushion is being inflated.*

To Deflate the Seat Cushion

To deflate the seat cushion, do the following:

1. Press and hold the **Run/Standby** button for 3 seconds to put the pump into **Standby**.
   - The LED indicator changes to **red**.
   - The LCD screen goes blank.
2. Disconnect the tubeset from the pump (refer to “Disconnecting the Tubeset” on page 10).
3. Depress the 2 valves on the underside of the seat cushion to release the remaining air from it.

☞ *There is no transport mode on the **Alpha** **RESPONSE** seat cushion.*



7. Decontamination

The following processes are recommended, but should be adapted to comply with the local or national guidelines (Decontamination of Medical Devices) which may apply within the Healthcare Facility or the country of use. If you are uncertain, you should seek advice from your local Infection Control Specialist.

The ***Alpha* RESPONSE** system should be routinely decontaminated between patients and at regular intervals while in use; as is good practice for all reusable medical devices.

WARNING

Remove the electrical supply to the pump by disconnecting the mains power cord from the mains power supply before cleaning. Protective clothing should always be worn when carrying out decontamination procedures.

Caution

Do not use Phenol-based solutions or abrasive compounds or pads during the decontamination process as these will damage the surface coating. Do not boil or autoclave the cover.
Avoid immersing electrical parts in water during the cleaning process. Do not spray cleaning solutions directly onto the pump.

To Clean Clean all exposed surfaces and remove any organic debris by wiping with a cloth moistened with a simple (neutral) detergent and water. Dry thoroughly.

Chemical Disinfection To protect the integrity of the cover we recommend a chlorine-releasing agent, such as sodium hypochlorite, at a strength of 1,000ppm available chlorine (this may vary from 250ppm to 10,000ppm depending on local policy and contamination status).

Wipe all cleaned surfaces with the solution, rinse and dry thoroughly.

Alcohol based disinfectants (maximum strength 70%) may be used as an alternative.

Ensure the product is dry before storage.

If an alternative disinfectant is selected from the wide variety available we recommend that suitability for use is confirmed with the chemical supplier prior to use.

DO NOT WRING/MANGLE, AUTOCLAVE OR USE PHENOLIC BASED SOLUTIONS.

Thermal Disinfection For information for the mattress top cover, including laundering guidelines, refer to “COVER SPECIFICATION” on page 28.

8. Maintenance and Service

Alpha RESPONSE System

Maintenance The equipment has been designed to be virtually maintenance-free between service periods.

Servicing **ArjoHuntleigh** will make available on request service manuals, component parts lists and other information necessary for **ArjoHuntleigh** trained personnel to repair the system.

Service Period **ArjoHuntleigh** recommend that the ***Alpha*** **RESPONSE** system should be serviced after 12 months running time has elapsed, by an **ArjoHuntleigh** authorised service agent.

The **Service** symbol will be illuminated to indicate that the pump is ready for a service (refer to “Alarms” on page 15).

Alpha RESPONSE Pump

General Care, Maintenance and Inspection Check all electrical connections and power cable for signs of excessive wear.

In the event of the pump being subjected to abnormal treatment, e.g. immersed in water or dropped, the unit must be returned to an authorised service centre.

Biofilter The internal biofilter can be run continuously for 12 months before it requires autoclaving or replacement. The biofilter can only be replaced by a service engineer.

Alpha RESPONSE Mattress Replacement, Overlay and Seat Cushion

General Care Remove the top cover and inspect for signs of wear or any tears.

Check all zips are secure.

Check integrity of all connectors, including cell to manifold connections.

Ensure all cell fasteners are correctly connected to the mattress base sheet and are not loose or damaged.

Serial Labels

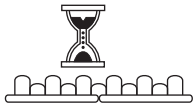
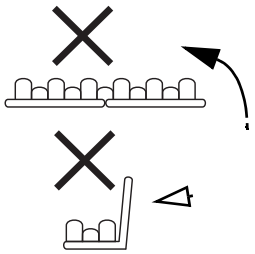
Pump The serial number for the pump is on the label on the back of the pump case.

Mattress The mattress serial label can be found just inside the base cover above the tubeset.

Seat Cushion The seat cushion serial label can be found just inside the front of the base cover.

9. Troubleshooting

The following table provides a troubleshooting guide for the ***Alpha*** **RESPONSE** systems in the event of malfunction.

LCD Screen	Possible Cause	Remedy
 **Mattress Inflating**	Pump is inflating the mattress replacement or mattress overlay.	The “egg timer” is replaced by the patient body icon when mattress inflation is complete.
 **Seat Inflating**	Pump is inflating the seat cushion.	The “egg timer” is replaced by the patient body icon when seat cushion inflation is complete.
 **No Mattress/Seat (graphics alternate)**	1. No tubeset connected to pump. 2. Tubeset fitted but not connected securely.	1. Connect a mattress or seat tubeset to the pump. 2. Remove and reconnect tubeset, making sure it is securely pushed onto the pump until a “click” is heard.
 **Lo** **Low Pressure**	1. The tubeset is not connected properly. 2. CPR control not fully closed. 3. There is a leak in the system.	1. Remove and reconnect tubeset, making sure it is securely pushed onto the pump until a “click” is heard. 2. Make sure the CPR plug is fully pushed into the CPR grommet. 3. Call service engineer.
 **High Pressure**	1. Tubeset is “kinked” or blocked. 2. Pump has detected an internal fault.	1. Check and remove any “kinks” or blockages in the tubeset. 2. Disconnect the pump from the electrical supply and call service engineer.
 **Power Fail**	External mains power supply has been removed while the pump is operating.	Reconnect the mains power supply to the pump.
 **Hardware Fail**	Pump has detected an internal fault.	Disconnect the pump from the electrical supply and call service engineer.
 **Service Indicator (in top right of LCD screen)**	Pump needs a service: After 12 months run time, the spanner icon is illuminated. After a further 3 months run time, the spanner icon starts flashing.	Call the service engineer.

10. Technical Description

PUMP	
Model:	*Alpha* RESPONSE
Part Numbers:	464001 - UK
Supply Voltage:	100-230V
Supply Frequency:	50/60Hz
Power Input:	27VA
Size:	240mm (L) x 210mm (H) x 135mm (D)
Weight:	3.2kg
Case Material:	Fire Retardant ABS Plastic
Plug Fuse Rating:	5A to BS1362 (UK ONLY)
Degree of protection against electric shock:	Class II, Double Insulated with Functional Earth Type BF
Degree of protection against liquid ingress:	IPX0
Mode of operation:	Continuous

SYMBOLS							
	Type BF		Do not dispose of in domestic refuse		Alternating Current		Double Insulated
	Dangerous voltage		Refer to accompanying documents	**SN:**	Serial Number		
	With respect to electric shock, fire and mechanical hazards only in accordance with UL60601-1 and CAN/ CSA C22.2 No. 601.1. MEDICAL EQUIPMENT		Refer to the User Manual	**Ref:**	Model number		

ENVIRONMENTAL INFORMATION			
Condition	**Temperature Range**	**Relative Humidity**	**Atmospheric Pressure**
Operating	+12°C to +40°C	20% to 75% (non-condensing)	700hPa to 1060 hPa
Storage (Long Term)	+12°C to +40°C	20% to 75% (non-condensing)	500 hPa to 1060 hPa
Storage (Short Term) *(less than 24 hours)*	-20°C to +50°C	20% to 95% (non-condensing)	500 hPa to 1060 hPa

MATTRESS

Description	Size (Height x Length)	Cell Material	Base Cover Material
Mattress Replacement (MR)	205mm (H) x 2090mm (L)	Polyurethane	PU Laminate
Mattress Overlay (OL)	115mm (H) x 2090mm (L)	Polyurethane	PU Laminate

MATTRESS SIZE INFORMATION

Part No.	Description	Width (mm)
465001ADV	*Alpha* RESPONSE Mattress Replacement (Advantex)	886
465001DAR	*Alpha* RESPONSE Mattress Replacement (Dartex)	886
465002ADV	*Alpha* RESPONSE Mattress Replacement, Narrow (Advantex)	806
465002DAR	*Alpha* RESPONSE Mattress Replacement, Narrow (Dartex)	806
465003ADV	*Alpha* RESPONSE Mattress Overlay (Advantex)	886
465003DAR	*Alpha* RESPONSE Mattress Overlay (Dartex)	886
465004ADV	*Alpha* RESPONSE Mattress Overlay, Narrow (Advantex)	806
465004DAR	*Alpha* RESPONSE Mattress Overlay, Narrow (Dartex)	806

SEAT CUSHION

Part Number:	465005DAR
Length:	470mm
Width:	455mm
Height:	50mm
Cell Material:	Polyurethane

CLEANING SYMBOLS

	Do Not Use Phenol-based cleaning Solutions		Tumble dry at a cool setting
	Do not iron		Tumble dry at 80-85°C
	Use solution diluted to 1000 ppm of Available Chlorine		Wipe surface with damp cloth
	Wash at 71°C for a minimum of 3 minutes		
	Wash at 65°C for a minimum of 10 minutes		

COVER SPECIFICATION		
Feature	**Standard Cover (Dartex)®**	**Advantex®**
Removable Cover	Yes	Yes
Moisture Vapour Permeable	Yes	Yes
Air Permeable	No	No
Low Friction	Yes	18% lower
Water Resistant / Repellent	Yes	Yes
Infection Control	Material coating is Bacteriostatic, fungistatic, antimicrobial	Material coating is Bacteriostatic, fungistatic, antimicrobial
Fire Retardant	BS 7175: 0,1 & 5	BS 7175: 0,1 & 5
2-Way Stretch	Yes	Some
Washing Conditions	MAX 95°C (203°F) for 15 mins[(a)]	MAX 95°C (203°F) for 15 mins[(a)]
Drying Conditions	Tumble Dry up to 130°C (266°F) or Air Dry	Tumble Dry **ONLY** at 80-85°C (176°F-185°F)
Life Span	50 Wash Cycles (minimum)	50 Wash Cycles (minimum)
Application Area	Acute and Homecare	Acute and Homecare

a. Check your local policy to determine the time/temperature ratio required to achieve thermal disinfection.

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