English

Contents

General Safety

Before you connect the system pump to a mains socket, read carefully all the installation instructions in Section 3 - Operation. The system has been designed to comply with regulatory safety standards including

- EN60601-1.
- UL2601-1 & CAN/CSA C22.2 No 601-1

Safety Warnings

- The cover of this product is vapour permeable but not air permeable and may present a suffocation risk. It is the responsibility of the care giver to ensure that the user can use this product safely.
- Electrical equipment may be hazardous if misused. The pump's case back should only be removed by authorised technical personnel.
- Do not use the pump in the presence of flammable gases such as anaesthetic agents.
- Whilst patient is unattended, bed side rails should be used in line with local clinical practice.
- If bed side rails are used, no gap wide enough to entrap a patient's head or body should exist when the mattress is secured. Otherwise death or serious injury may occur.
- Due to the inherently lower flame retardancy of the high performance eVENT® [1] fabric, it is NOT suitable for use in the homecare environment.

Precautions

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

- Keep the pump away from sources of liquids and do not immerse in water.
- Do not expose the system, especially the mattress, to naked flames, such as cigarettes etc.
- Do not store the system in direct sunlight.
- Switch off the electrical supply to the pump by disconnecting the pump from the mains socket before cleaning and inspection.
- Do not use hypercarbonate or phenolic based cleaning solutions.
- Ensure the system is clean and dry prior to 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.
- Only the pump and mattress combination as indicated by Huntleigh Healthcare should be used. The correct function of the product cannot be guaranteed if the incorrect pump/mattress combinations are used.

1. *eVENT® is a registered trademark of BHA Technologies Inc.*

1. Introduction

About Breeze

The **Breeze** low air loss systems are one of the most advanced Pressure Area Management Systems manufactured by Huntleigh Healthcare for the prevention and management of pressure sores.

Breeze is a Low Air Loss overlay or mattress replacement system, which is easy to install and use with either standard hospital beds or divan beds within the home. Beds can be adjusted or gatched without impairing the pressure reducing performance of the **Breeze** system.

The system comprises the **Breeze** pump and either an overlay or mattress replacement, which together assist in achieving effective pressure area care, with correct patient support and maximum comfort.

The **Breeze** pump is lightweight and compact with controls which allow comfort adjustment to suit the individual patient.

The pump provides three modes of operation:

- **Static Mode** provides continuous low pressure.
- **Pulsate Mode** combines continuous low pressure with a periodic pulsation of the support surface.
- **Autofirm Mode** provides a firm support surface to facilitate nursing procedures and/or patient transfer.

The **Breeze** mattresses are made up of 17 ventilated cells which form a constant low pressure support surface.

The cells form three zones of pressure reduction:

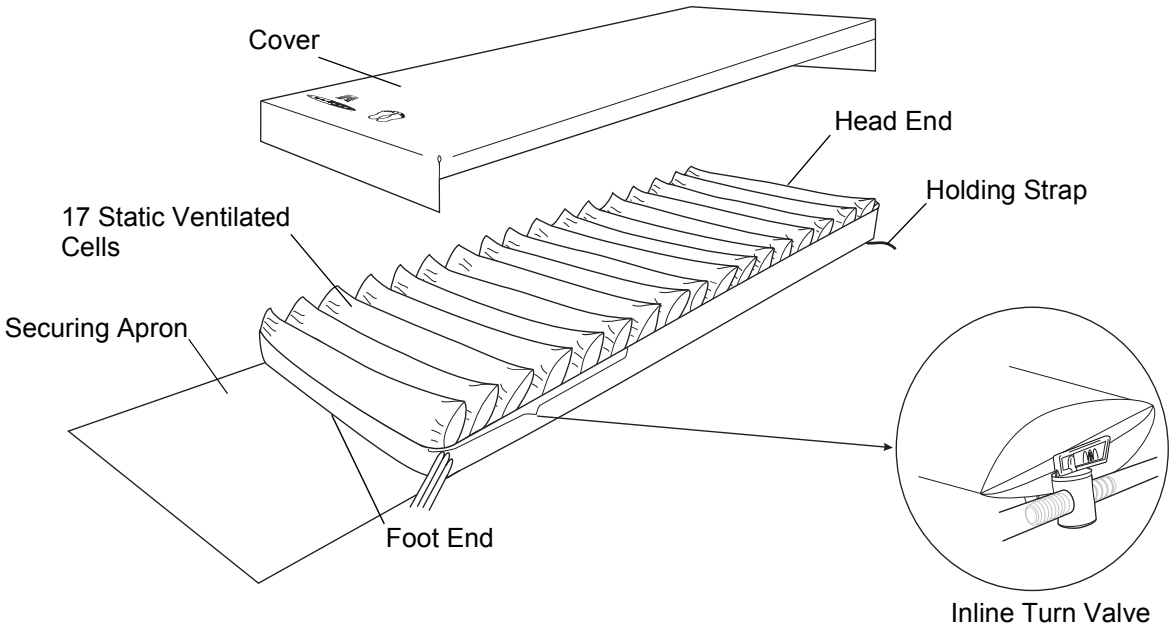
- Eight torso section cells provide effective support under the heaviest body area.
- Three head section cells have even lower cell pressures.
- Six leg section cells have the lowest cell pressures. Each cell is capable of being individually deflated by the use of an inline turn valve.

The **Breeze** mattress replacement has an additional single air-filled sub-mattress which acts as a replacement for a standard bed mattress.

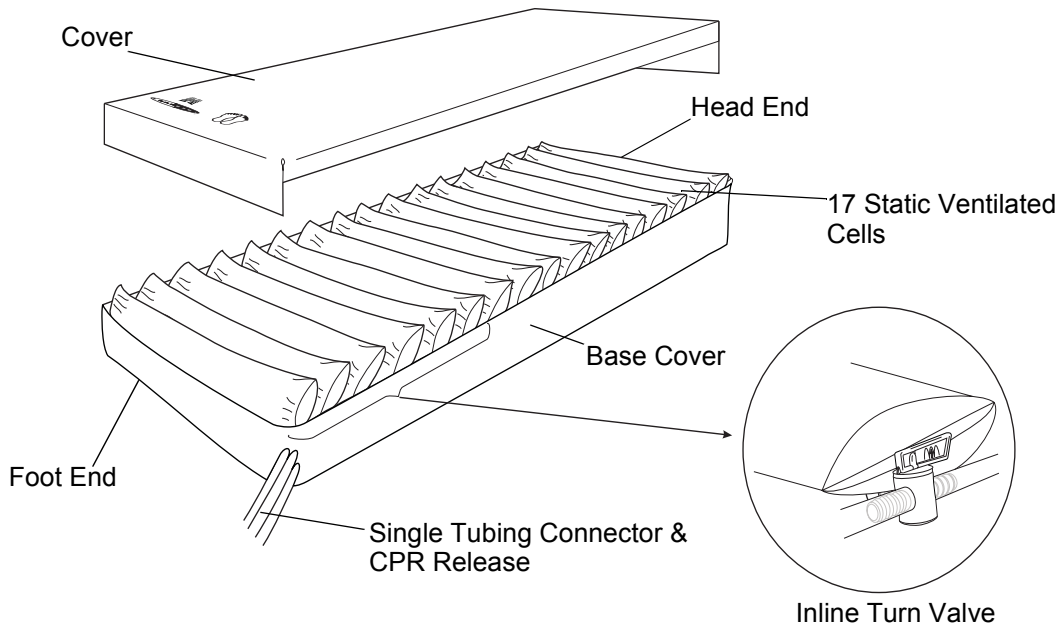
The **Breeze** cover is water resistant and vapour permeable to enhance patient comfort whilst protecting the cells from ingress of contaminants. The cover is simple to clean in situ, but may easily be removed for laundering or autoclaving, preventing cross contamination.

In the event of cardiac arrest both the overlay and the mattress replacement can be easily deflated in approximately 10 seconds to allow cardiac resuscitation procedure to be performed.

Breeze Overlay



Breeze Mattress Replacement



Cells Seventeen polyurethane (PU) cells approximately 125mm (5”) high providing support to the patient.

Turn Valves Incorporated into the manifold of the six leg cells are inline turn valves. These valves enable each cell to be deflated individually.

☞ *Before setting up the system ensure that the Turn Valves are in the correct position according to the type of therapy required.*

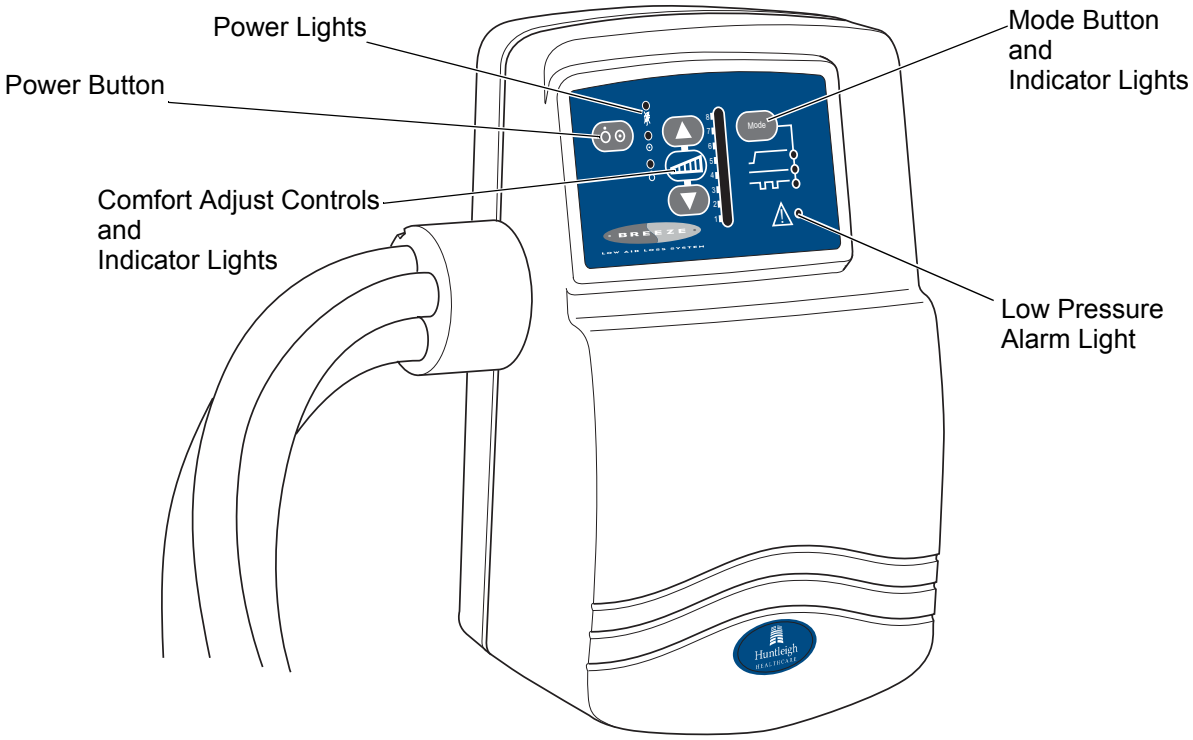
Tube Set Made from materials which reduce the risk of accidental kinking of the tubing.

Tube Connector and CPR Release Located at the pump end of the tubing set is a specially designed snap-lock connector. This particular design helps prevent accidental disconnection of the mattress from the pump. Releasing the connector allows the air to escape from the cells in approximately 10 seconds to facilitate CPR.

Cover The mattress is totally enclosed in a double zipped cover. The top and sides of the cover are constructed from a two-way stretch and water resistant material, which is vapour permeable for maximum patient comfort. The base of the cover is constructed from a tough abrasion resistant material and is fitted with bed attachment straps and sheet clips.

Air Cell Sub-Mattress (Mattress Replacement Only) A 75 mm (3”) thick sub-mattress made of a single air-filled cell.

Breeze Pump

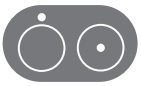


The pump has a tough outer case, with non-slip feet situated on the back.

Mounting Hooks As an alternative to laying the pump on its back on a firm surface, the mounting hooks allow easy positioning of the pump on the bed frame.

Controls and Indicators

Power Button



When the pump is connected to a suitable power supply, the orange **Standby** light illuminates. When the **Power** button is pressed, the green **On** light illuminates.

Power Fail Alarm

This indicator will flash and an audible warning will sound in the case of power failure.

This control allows the user to switch between the three modes below.

Autofirm – provides a firmer surface for patient transfer on and off the bed and allows for easier nursing procedures.

Static – provides a constant low pressure support surface.

Pulsate – provides a low pressure support surface with a regular pulse which may stimulate patient movement.

Low Pressure Alarm Light

Situated on the front of the pump, the red low pressure alarm light illuminates if the pump blower fails and cannot deliver the required pressure.

Comfort Adjust Control

Located on the front of the pump, this control provides the means for adjusting the pressure inside the mattress.

2. Clinical Applications

A risk assessment tool combined with clinical judgement should be used when determining a patient's level of risk of developing pressure ulcers. Patient risk assessment should be an ongoing process as changes in the patient's condition may increase or decrease their risk level.

Indications The **Breeze** mattress system is indicated for patients up to 140 kg (308 lb.) and is suitable for the prevention and management of all grades of pressure ulcers.

Contraindications The **Breeze** system should not be used for patients with unstable spinal fractures.

In the case of patients with other unstable fractures, where a moving surface can be harmful, advice should be obtained from the appropriate physician before using the **Breeze** system.

Patient In Chair If the patient will be sitting in a chair for any period of time, it is strongly recommended that a pressure reducing or pressure relieving seat cushion is used.

☞ *The* **Breeze** *mattresses are an aid to the prevention and management of pressure ulcers. If there is no improvement in the patient's condition, clinical advice should be sought.*

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

3. Operation

Preparing the Pump and Mattress System for Use

The system is very simple to set up using the following guidelines.

1. Remove the system from its packaging.
2. Plug the pump power cord into the electrical outlet; the **Standby** light will illuminate.
3. The pump should be placed feet down on any convenient surface or alternatively suspended from the bed foot rail by means of the swing out hooks.

Breeze Overlay

If you have the **Breeze** Overlay mattress it should be installed as follows:

1. Place the overlay mattress on top of the base mattress, with the tube-set located near the foot end of the bed.

Caution

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

2. Secure the overlay to the base mattress by securing the apron under the foot end of the mattress and the corner straps to the head end.

Breeze Mattress Replacement

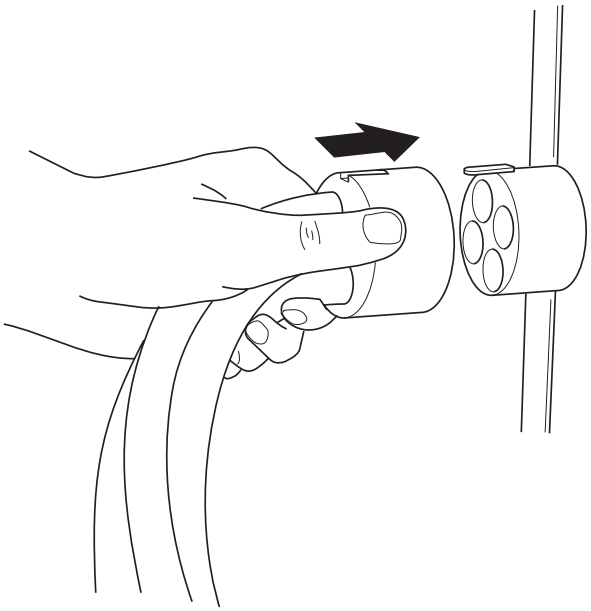
If you have the **Breeze** Mattress Replacement it should be installed as follows:

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 tube-set is located near the foot end of the bed. The cells of the mattress must be uppermost.
3. Attach the mattress to the bed frame using the fastener straps.

To Complete the Mattress Installation

1. Ensure the protective cover over the cell assembly is fixed in position. This will reduce the risk of the cell assembly becoming contaminated.

2. Connect air feed tubes to the pump unit, ensuring that the tubes are not “kinked” or excessively twisted. Push the connector in until it clicks.



3. Press the **Power** On button; the On indicator will illuminate and the pump blower will start.
4. Allow approximately three minutes for the mattress to inflate fully. Lift the cover and ensure the cells are fully inflated and in line. For the mattress replacement, check that the static pad is level. Refit cover.
5. Place a bed sheet over the mattress and tuck in loosely without wrinkles.

☞ *The 6 leg cells can be individually deflated for medical procedures, refer to “Turn Valves” on page 13.*

This product can be used with a pillow to enhance comfort. Ensure the head does not develop pressure damage.

WARNING

Ensure that the patient is not bottoming out by sliding a hand between the inflated top cells, and above the air-filled sub-mattress/bed mattress underneath the patient's heaviest point; e.g. buttocks. The correct amount of 'lift' is achieved when two fingers can be easily slid underneath. If only the flat hand can be slid under, then more support is required. Increase the comfort adjust control slightly, wait 1 minute and check again, adjusting if necessary. If more than two fingers can be slid underneath, i.e. three fingers depth, there is too much support. Decrease the comfort adjust control, wait 1 minute and check again, adjusting if necessary.

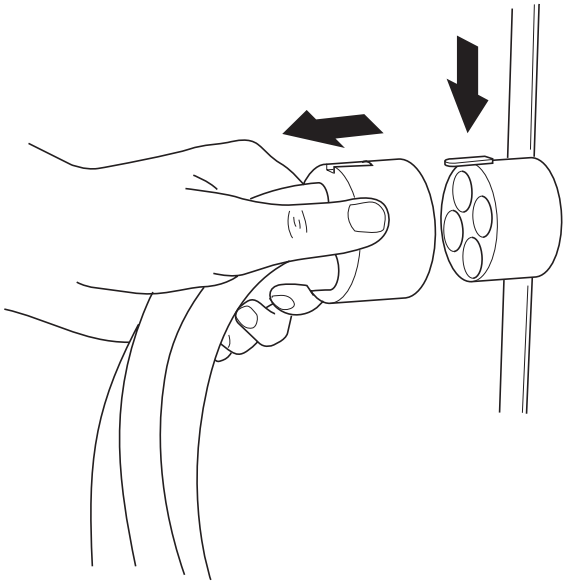
If the patient's position changes, recheck the lift as above.

Alignment of bed frame, bedside rails and mattress should leave no gap wide enough to entrap a patient's head or body. Care should be exercised to prevent occurrence of gaps by compression or movement of the mattress. Death or serious injury may result.

4. CPR Facility

IMPORTANT

In the event of cardiac arrest, depress the red release catch on the tubeset/pump connector, and at the same time pull the tubeset out and away from the pump.



Located on the left hand side of the pump is a red release catch marked with an arrow. In the event of cardiac arrest, depress this catch and pull the tubeset from the pump. Deflation will occur in approximately 10 seconds.

To reinflate the mattress, reconnect the tubeset to the pump.

☞ *Ensure that the pump is connected to the power supply and switched on.*

5. Patient Transport

The patient may be transported on the **Breeze** Mattress Replacement only, by disconnecting the pump from the mains power supply. The air-filled sub-mattress will provide temporary support for up to six hours.

Do not disconnect the tubeset from the pump, as this deflates the air-filled sub-mattress.

☞ *If the patient is lying on the mattress, do not remove the mattress from the bed.*

6. Controls and Indicators

Power Button This is situated on the front of the pump.

When power is supplied to the pump unit, the orange **Standby** indicator is illuminated.

Pressing the **Power Button** will activate the pump, the standby indicator will extinguish. The green **On** indicator will be illuminated.

The default condition at switch-on is Static mode, Comfort level 4.

Comfort Adjust These controls adjust the amount of air flowing to the cells and thus their firmness.

The level can be seen represented on the scale marked 1-8 with 1 being the lowest pressure setting and 8 being the highest setting.

To increase the firmness of the cells push the ▲ arrow.

To decrease the firmness of the cells push the ▼ arrow.

See Section 3 for selecting the correct setting.

☞ *A lock-out facility prevents accidental alterations being made to the comfort adjust, operation mode and the operation of the pump. This lockout facility is disabled by pressing both the ▲ and ▼ together, allowing the desired adjustment(s) to be made. Lock-out is activated when the* **On** *light is flashing, and deactivated when the* **On** *light is continually illuminated. Lock-out reactivates itself after five minutes from last unlock.*

Mode Button Press this button to switch between modes. The **Mode** light flashes for a few seconds before the selected mode is activated to allow you to scroll between modes. Once a mode is activated, the light becomes steady.

Autofirm - mode inflates the cells to their maximum pressure to provide a firm and stable surface to facilitate nursing procedures and/or patient transfer.

☞ *After 10 minutes the system will revert to static mode at the previously set comfort level. A one minute alarm will give warning of this change. Pressing the* **Mode** *button twice more will reset* **Autofirm** *for a further 10 minutes.*

Static - mode is the "normal" operating mode of the system and provides constant low pressure.

Pulsate - mode results in a small fall and then rise in cell pressure approximately every 30 seconds. Some users may find that this further enhances their comfort level.

Low Pressure ! This light illuminates if the pump blower fails and cannot deliver the required pressure. An audible alarm will also be activated. Refer to the **Troubleshooting** section.

Power Fail In the event of a power failure, the red **Power Fail** indicator will be illuminated. An audible alarm will be activated. To mute the alarm, press the **Power** button. To reset the alarm, restore power and press the **Power** button.

Refer to the **Troubleshooting** section.

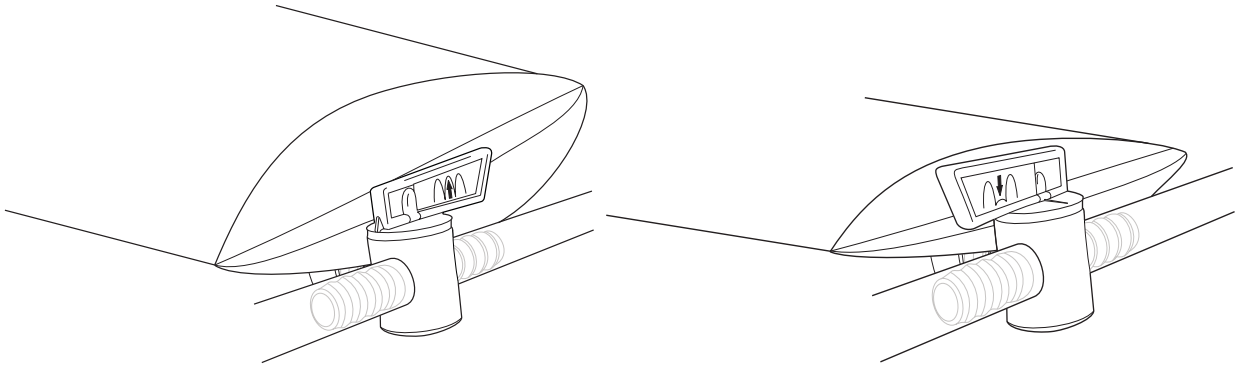
Turn Valves Each of the six leg cells is capable of being individually deflated by the use of an Inline Turn Valve. Each valve has two positions:

- Open - Allows the cell to be inflated.

☞ *Turn the Valve so that it points toward the head end of the mattress.*

- Closed - Deflates the cell.

☞ *Turn the Valve so that it points toward the foot end of the mattress.*



INFLATED DEFLATED

☞ *Before setting up the system ensure that the Turn Valves are in the correct position according to the type of therapy required.*

7. Decontamination

The following guidelines have been established in accordance with good infection control practice. Should you have any questions regarding cleaning or if you require further information please contact our service centre.

Caution

Gloves and protective clothing should always be worn when carrying out decontamination procedures.

WARNING

Switch off the electrical supply to the pump and disconnect the power cord from the mains supply before cleaning and inspection.

During Use

To clean The mattress, pump, tube-set and other ancillary parts should be cleaned weekly and in between each patient use using a disposable cloth soaked in mild detergent and warm water. Do not use abrasive compounds or pads. The user should avoid immersing electrical parts in water during the cleaning process.

To disinfect All parts can be wiped down with sodium hypochlorite or NaDCC solution at 1000ppm of available chlorine following the cleaning procedure.

Outside the UK use disinfectant recommended in local hospital infection control guidelines.

Do not use Phenol or Quarternary Ammonium Compound (QAC) based cleaning solutions as these will damage the surface coating.

Laundering The mattress top covers can be easily unzipped for complete removal to allow laundering at 65°C for 10 minutes or 80°C for 3 minutes to achieve thermal disinfection. This complies with HSG(95) 18 Hospital Laundry arrangements for used and infected linen (UK) 1995.

DO NOT TUMBLE DRY COVERS ABOVE 50°C.

Further Information For further detailed decontamination guidance, consult Huntleigh Healthcare Infection Control Procedures. Policy Guidelines.

8. Troubleshooting Guide

WARNING

Electrical equipment may be hazardous if misused. The pump's case back should only be removed by authorized technical personnel. There are no user-serviceable parts.

Problem	Possible Cause	Action
Mattress not inflating.	1. Tubes kinked.	Check
	2. Pump not switched on.	Check
	3. No pump output.	Check - See *Pump not operating* below
	4. Punctured cell or leakage from 'T' connector	Check
	5. Tubes or connector notcorrectly fitted.	Check
Leg Cell(s) Not Inflated	Inline Turn Valve in Closed Position	Check.
Consistent **Low Pressure** Alarm.	Pump blower not operating.	Call Service Engineer for maintenance.
The **Power Fail** indicators (audible and visual) are active.	1. A Mains power failure has occurred.	Check.
	2. The power cord has been removed from the wall socket.	Check.
The **Power Fail** indicator remains constantly illuminated but there is no audible alarm.	There has been a power failure but power has been restored.	Press **Power** button to activate pump.
Pump makes a lot of abnormal noise and/or is causing lot of vibration.	System damaged.	Call Service Engineer for maintenance.
Pump not operating.	1. Pump is not switched on.	Press **Power** button.
	2. Plug not inserted correctly.	Check
	3. Technical failure.	Call Service Engineer for maintenance.
Standby light not lit.	No power to pump.	Check unit plugged in and fuse in plug is OK.
	Fuse(s) inside unit blown.	Call Service Engineer to replace fuse.

☞ *Ensure pump alarms are reset by operating the* **Power** *button after the fault has been corrected.*

9. Warranty and Service

Huntleigh Healthcare's standard terms and conditions apply to all sales. A copy is available on request. These contain full details of warranty terms and do not limit the statutory right of the consumer.

For service, maintenance and any questions regarding this, or any other Huntleigh Healthcare product, please contact:

Huntleigh Healthcare Ltd
310-312 Dallow Road
Luton
Bedfordshire,
LU1 1TD

Tel : +44 (0) 1582 413104
Fax : +44 (0) 1582 459100

or your local distributor.

10. Technical Data

Pump

Model No:	LAL001
Size:	305 x 186 x 135 mm (12 x 7.5 x 5.5 in.)
Weight:	4 kgs (9 lbs)
Rated Voltage:	230 V
Rated Frequency:	50 Hz
Rated Input Power:	460 V A
Complies with:	BS EN 60601-1
Fuse ratings:	Plug: 5A to BS1362 Display board: 500 mA Filter board: 2 x 5 A
Protection Class:	Type BF  Class I. Not protected against entry of water.
Mode of operation:	Continuous
Equipment Symbols:	 Alternating Current ! Warning SN: Serial number

Environmental Conditions

Operating

Temperature range:	+10°C to +40°C
Relative Humidity:	30% to 75%
Atmospheric Pressure:	700hPa to 1060 hPa

Storage

Storage temperature range:	-40°C to +70°C
Relative humidity:	10% to 100% (non-condensing)
Atmospheric Pressure:	500 hPa to 1060 hPa
Environmental Protection:	Please dispose of this unit in accordance with local regulations.

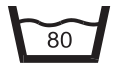
Mattress Overlay	**642001OLDAR** (Standard Cover) **642001OLADV** (Advantex Cover) **642001OLEVE** (eVENT Cover)
Size:	2090 x 866 mm (82 x 34 inches)
Inflated Mattress Height:	133 mm (5 inches)
Cell Material:	Polyurethane
Mattress Replacement	**624001DAR** (Standard Cover) **624001ADV** (Advantex Cover) **624001EVE** (eVENT Cover)
Size:	2090 x 866 mm (82 x 34 inches)
Inflated Top Cell Height:	133 mm (5 inches)
Inflated Mattress Height:	203 mm (8 inches)
Cell Material:	Polyurethane
Air-filled sub-mattress size:	2032 x 838 x 63.5 mm (80 x 33 x 3 inches)

Cover options and features

Feature	Standard Cover	Advantex™	eVENT® Fabric *
Moisture vapour permeable	Yes	Yes	12 x higher
Air permeable	No	No	Yes
Low friction	Yes	18% lower	20% lower
Water resistant / repellent	Yes	Yes	Yes
Infection Control	Bacteriostatic, fungistatic, antimicrobial	Bacteriostatic, fungistatic, antimicrobial	INERT MATERIAL does not support bacterial growth
Fire retardant	BS 7175: 0,1 & 5	BS 7175: 0,1 & 5	BS EN ISO 12952-1 **ONLY**
2 way stretch	Yes	Some	No
Cleaning conditions	Removable cover, washable at 80°C	Removable cover, washable at 80°C	Removable cover, washable at 80°C
Life span	50 Wash Cycles	50 Wash Cycles	15 Wash Cycles
Application area	Acute and Homecare	Acute and Homecare	Acute ONLY

* **Due to the inherently lower flame retardancy of the high performance eVENT® fabric, it is NOT suitable for use in the homecare environment.**

Cleaning Symbols



Wash at 176°F (80°C)

Do not iron

Do not use phenol or QAC based cleaning solutions

Do not tumble dry above 50°

Wipe surface with damp cloth

1000ppm NaOCl NaDCC

Use solution diluted to 1000 ppm