



Bi≈Wave™ Plus



User Guide



Bi≈Wave™ Plus

Use and Care Instructions



The **BI≈WAVE™ PLUS** System is suitable for patients showing any of the following characteristics:

- Assessed to be up to very high risk of pressure sore development.
- Require healing of any grade of pressure ulcers.
- Have some mobility whilst in bed or are turned regularly.

The **BI≈WAVE™ PLUS** System reduces skin surface pressure at frequent intervals. This encourages the blood flow necessary to maintain healthy tissue, thereby preventing pressure sores even in the most vulnerable patients.

Immobile patients or those not able to be turned frequently and therefore at greater risk can be nursed on the **CAIRWAVE™** Therapy System.

BI≈WAVE PLUS

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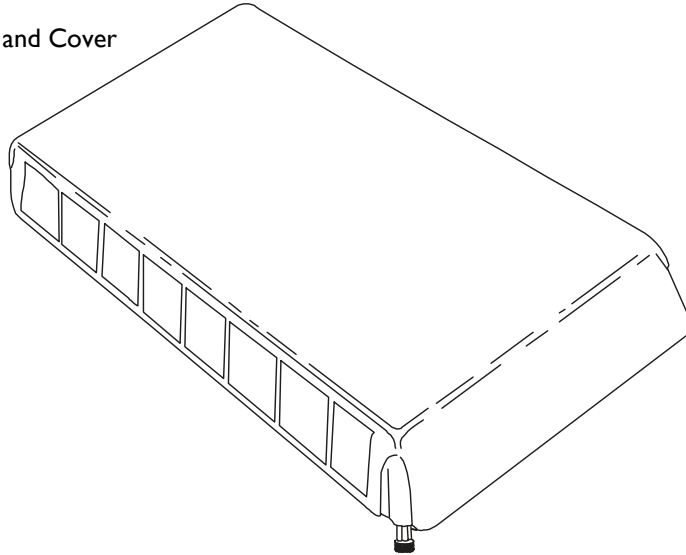
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SECTION A – GETTING STARTED

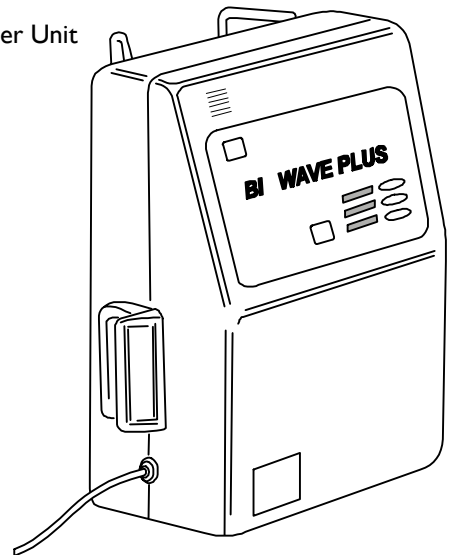
LIST OF PARTS

Check that all parts are present before assembling the system.

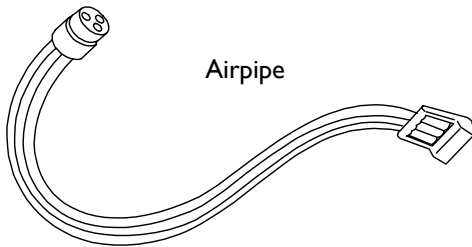
Mattress and Cover



Power Unit



Airpipe



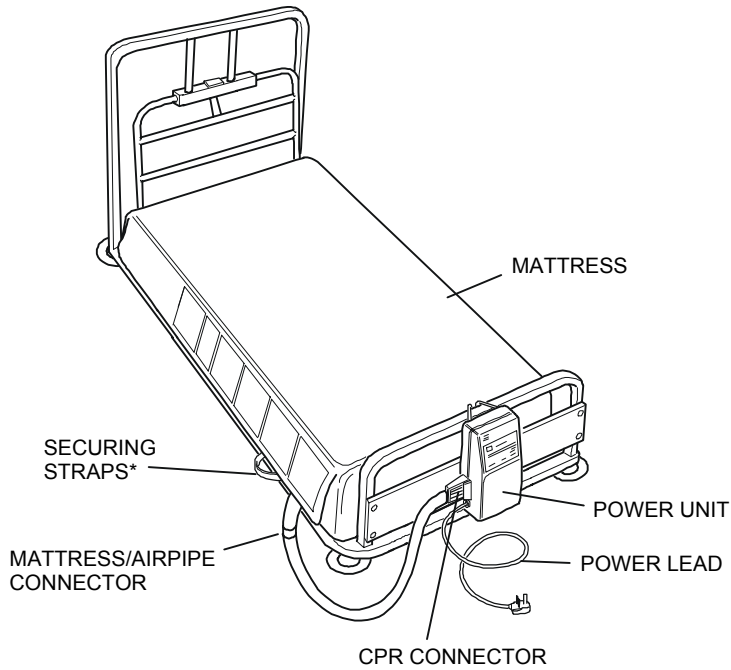
SETTING UP

The **BI WAVE PLUS** system can be used on all standard hospital, domestic and profiling beds.

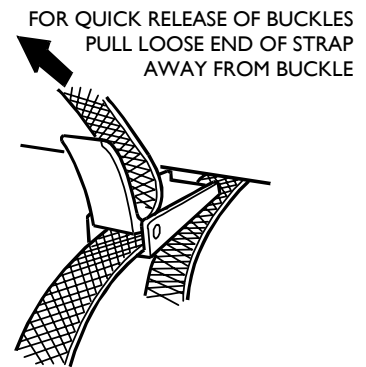
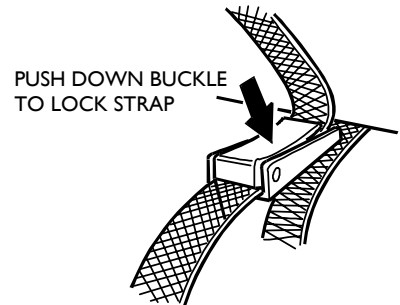
To install the system, carry out the following procedure:

1. Lower the bed if possible. Remove the existing mattress from the bed frame.
2. Check that there is nothing to damage the mattress, such as sharp edges or springs. If your bed frame does not have a solid base the use of a fracture board or similar firm base is advisable to ensure maximum benefit.

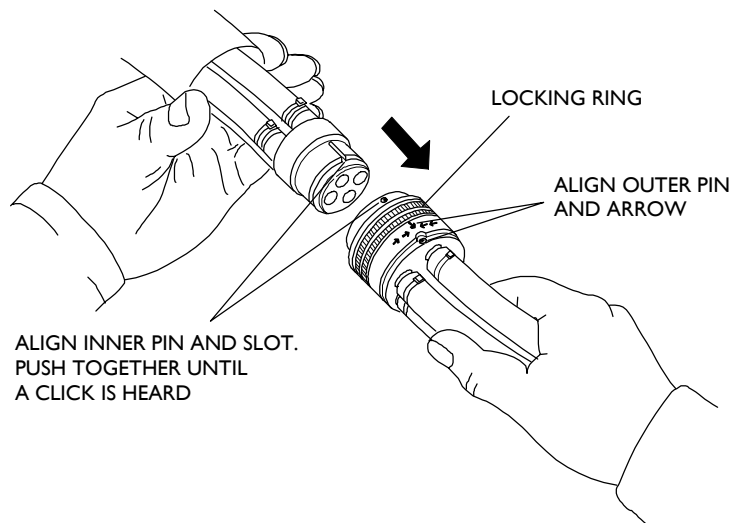
3. Place the mattress on the bed with the airpipe at the foot of the bed.
4. Loosely secure the mattress to the bed frame using the straps provided. Do not fasten the straps to removable head or foot boards.
5. Hook the power unit over the foot of the bed or place on the floor if preferred.



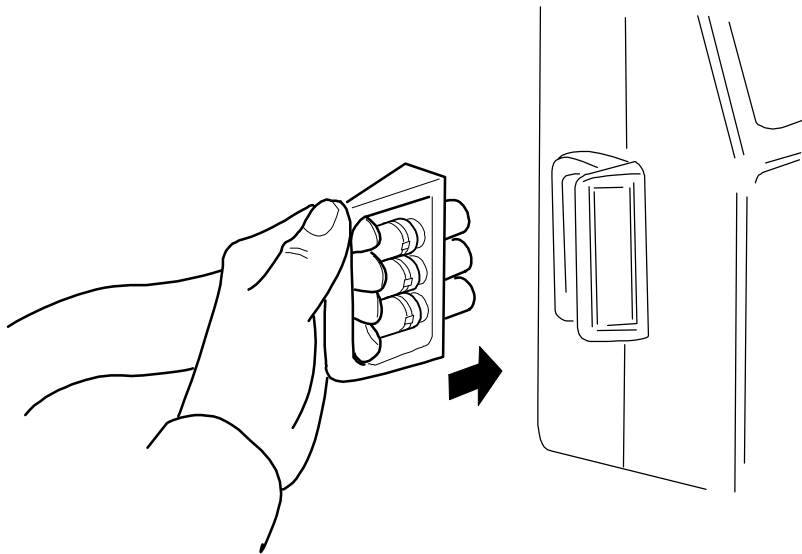
* MAKE SURE THE SECURING STRAPS ARE ATTACHED TO THE MOVING PARTS OF THE BED FRAME ONLY.



6. Connect the airpipe to the mattress by lining up the outer pin and arrow on the locking ring, then aligning the inner pin and slot and pushing the two halves of the connector firmly together until a click is heard.



7. Connect the airpipe CPR handle onto the power unit as shown, ensuring the 'PULL FOR CPR' label is visible.



8. Plug the mains lead into a suitable electrical socket. Switch the power unit on using the on/off switch located on the left side of the power unit. The audible alarm will sound and the three front panel lights will flash to complete the self test phase. The amber POWER light will stay on and the mattress will start to inflate.
9. The system will take approximately 25 minutes to reach full inflation pressure, at which time the green NORMAL light will come on. During this start up phase the red FAULT light may come on and the audible alarm sound, if this occurs turn the power unit off and back on again to reset the alarm.

Once inflated, check the securing straps and tighten if required. For maximum benefit, use only one sheet loosely placed over the mattress. If the sheet is tucked in ensure that it is left loose over the mattress to avoid hammocking.

Once a patient is placed on the mattress the system will adjust automatically to the patient characteristics (weight/position) to provide optimum clinical benefit for each patient. The mattress may feel firm at first until it has adjusted to the individual. Allow approximately 24 minutes for this automatic adjustment to be completed.

If the mattress does not perform as described above, please refer to Section F of this guide, 'Alarms and Fault Finding'.

SECTION B – PROFILING AND GATCHING

The **BI≈WAVE PLUS** system mattress can be used in a profiled position to provide pressure relief for patients sitting up in bed, and/or a gatching position for patients where the lower section of their bed is raised.

CAUTION: Do not fasten securing straps to removable head or foot boards, this may impede their removal in an emergency.

PROFILING (Sitting Up)

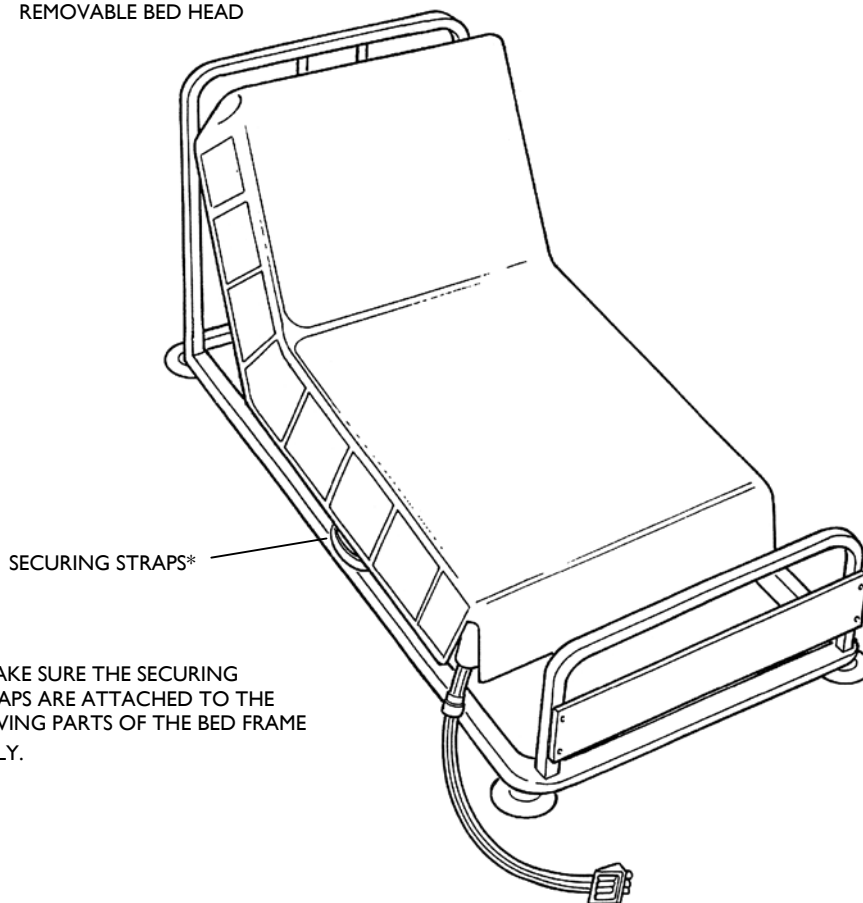
If using a bed with a manually operated back rest, release the mattress securing straps, lift the head end of the mattress and adjust the back rest to the required angle.

Move the mattress to the desired position and, using the centre and foot end straps, secure the mattress to the main bed frame.

If using a bed with a powered/mechanical back rest, release the mattress securing straps and raise the back rest to the required position.

Move the mattress to the desired position and secure to the moving parts of the bed ensuring the straps are positioned and fastened so they are not stretched or interfere with the bed mechanism when used in its various positions.

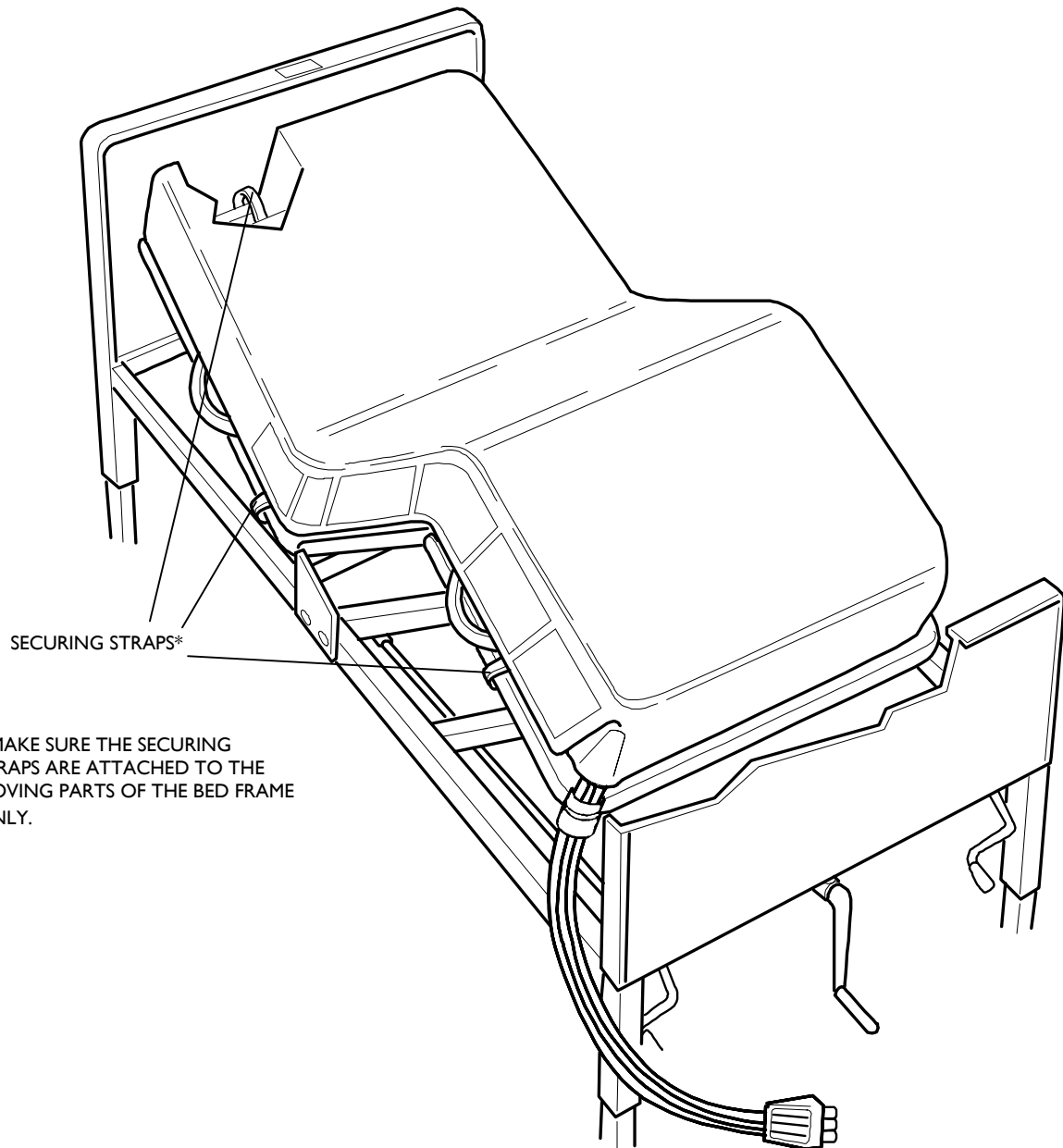
DO NOT FASTEN STRAPS TO
REMOVABLE BED HEAD



GATCHING (Bending at the Knees)

Release the mattress securing straps and gatch the knee section as required, being careful not to disturb the power unit by putting unnecessary strain on the airpipe.

Move the mattress to the desired position and secure to the moving parts of the bed ensuring the straps are positioned and fastened so they are not stretched or interfere with the bed mechanism when used in its various positions.



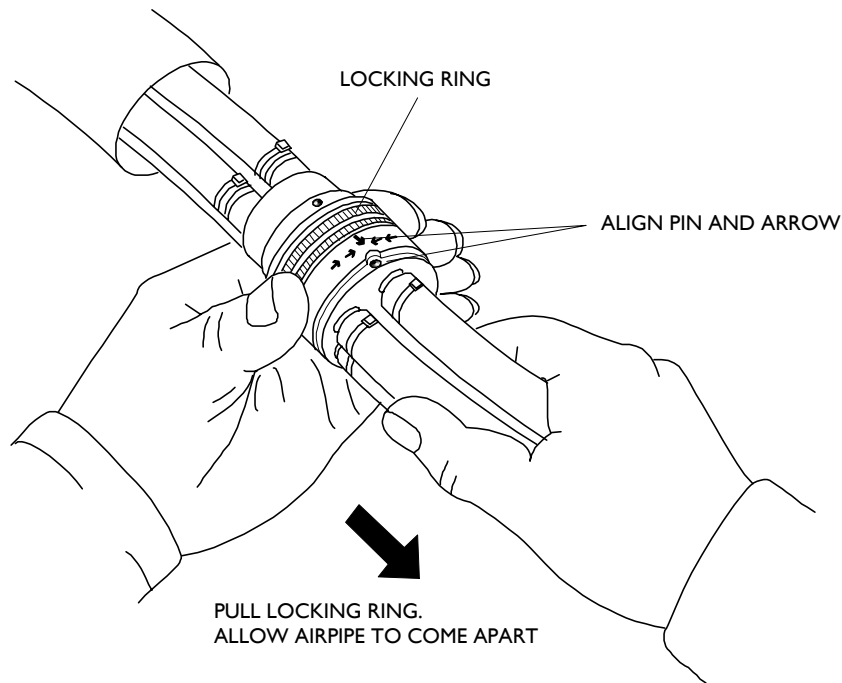
* MAKE SURE THE SECURING STRAPS ARE ATTACHED TO THE MOVING PARTS OF THE BED FRAME ONLY.

SECTION C – MOVING THE BED AND POWER CUTS

WARNING: The patient will not receive the benefits of the BI≈WAVE PLUS System while it is disconnected and the power unit is turned off. Therefore they should be reconnected as soon as possible once the bed has been moved to its new position.

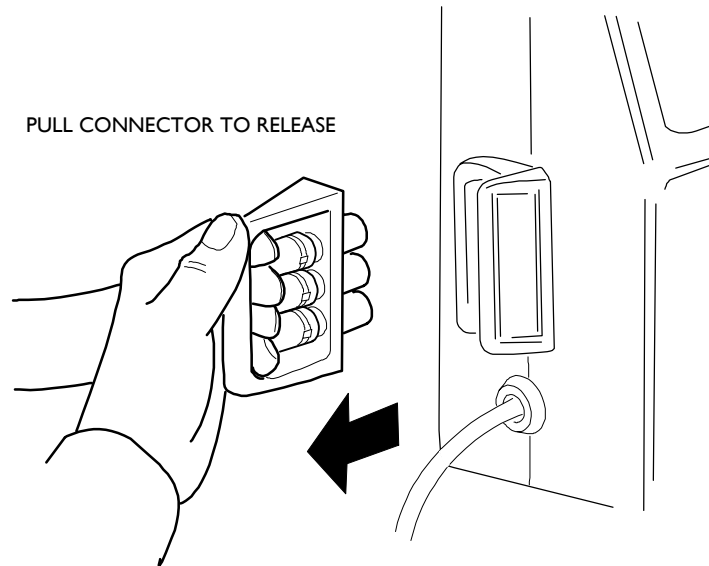
If you need to move the bed or carry out nursing procedures with the mattress still inflated (but static) or in the event of a mains power failure, then follow this simple procedure:

1. Disconnect the mattress from the power unit by turning the locking ring on the airpipe connector to line up the pin and arrow.
2. Push the locking ring so the pin and arrow move together and pull the two halves of the airpipe apart.
3. Turn off the power unit and unplug from the electrical socket. Press the alarm reset button on the front of the power unit to reset the audible alarm.
4. The mattress will remain inflated for over 24 hours. The bed can now be moved.
5. When the bed has been moved to its new location, reconnect the two halves of the airpipe, plug in the power unit to an electrical socket and turn the power unit on.



SECTION D – CPR (CARDIO PULMONARY RESUSCITATION)

In the event of cardiac arrest, disconnect the CPR handle from the power unit (as shown below). The mattress will immediately begin to deflate, allowing cardio pulmonary resuscitation.



SECTION E – DEFLATION, REMOVAL, CARRYING AND STORAGE

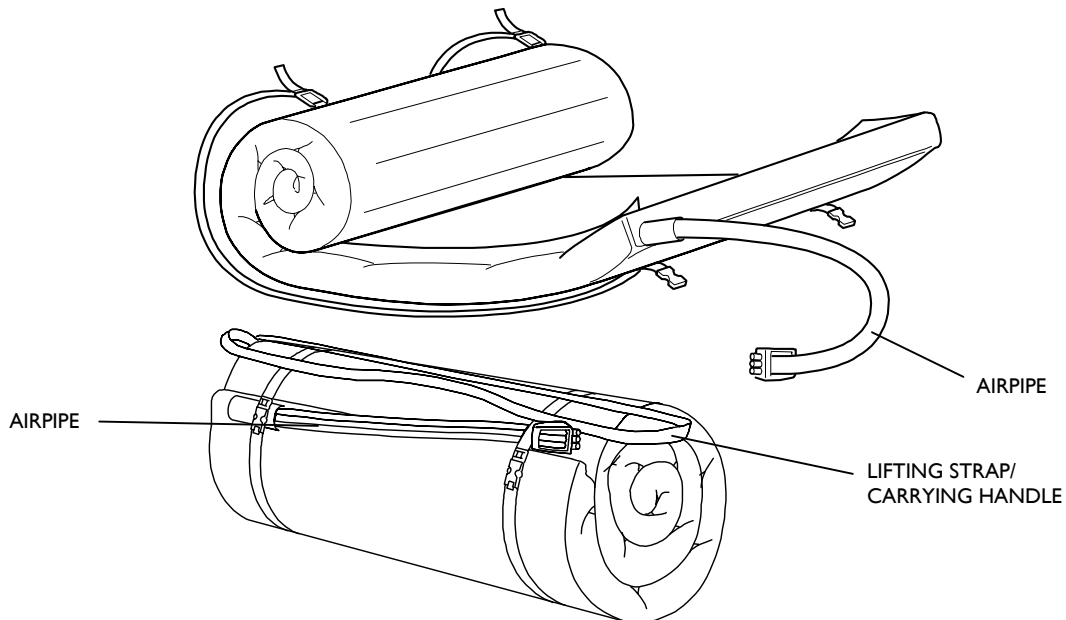
DEFLATION

To deflate the mattress, follow these easy steps:

1. Turn off the power unit and unplug from the electrical socket. An audible alarm will sound to indicate the unit is turned off. Cancel this alarm by pressing the reset button on the power unit.
2. Disconnect the airpipe from the power unit as detailed in the CPR Section of this manual. The mattress will immediately start to deflate. If you wish to deflate quicker, apply downward pressure to the mattress and press out as much air as possible.

REMOVAL

1. Roll the mattress from the head end, with the top surface inward, tucking in the loose straps until completely rolled. Lay the airpipe along the rolled mattress.



2. Use the foot end straps to fasten the mattress in the rolled position and hold the airpipe in place.
3. Unhook the power unit from the bed frame and coil the power lead for ease of storage.

CARRYING AND STORAGE

In order to help with carrying and storage of the system, a high quality carrying bag for the mattress and the power unit is available.

Please contact your supplier for details.

SECTION F – ALARMS AND FAULT FINDING

ALARMS

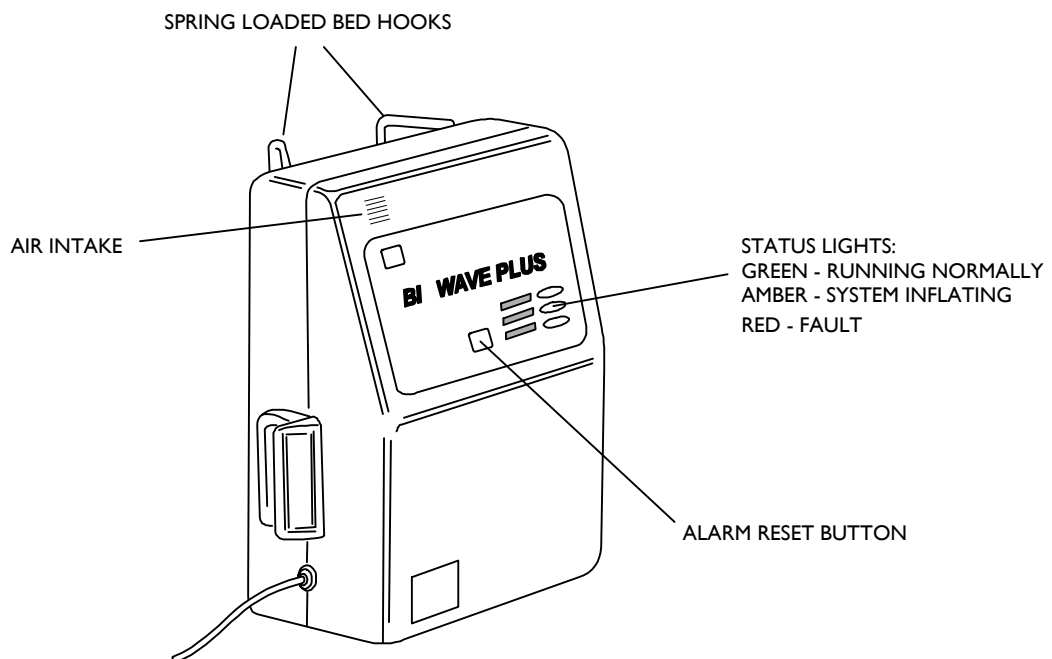
The **BI-WAVE PLUS** system is equipped with a sophisticated set of alarm functions. These alert the user to the status of the available mains supply and any mattress defect.

In normal conditions with mains power available, the power unit turned on and the mattress fully inflated and alternating, the status light on the power unit front panel will be green and the mains light amber.

If at any time the mains power should be removed from the power unit, an audible alarm will be heard.

The audible alarm may be cancelled by pressing the reset button on the power unit.

If the product develops a defect whilst in use, the fault light will turn red and an audible alarm will be heard. This alarm may be cancelled by turning the mains power switch, on the side of the power unit, to the OFF (O) position and then pressing the reset button.



FAULT FINDING

SYMPTOM	ACTION
No lights on power unit	Check power unit is connected to the mains power supply and that the power unit switch is turned to the ON (I) position
Status light red and alarm sounding or alarming but no lights	Turn the mains switch on the power unit OFF then ON again and press reset. If the mains light does not illuminate, mains power to the power unit has been lost. Check that the power unit is connected to the mains supply and that the power unit switch is turned to the ON (I) position If the alarm clears then returns after 30 minutes, check air connection between power unit and mattress, ensuring that all air connectors are pushed fully home and the air pipe is not folded or bent causing air flow to be reduced. Turn mains switch on power unit OFF then ON again and press reset.

If the problem persists, contact your supplier.

SECTION G – CLEANING

It is recommended that the system is cleaned regularly and after each patient use.

CAUTION **Do not immerse the power unit whilst cleaning**
Ensure the power unit is switched off and disconnected from the mains supply before cleaning.

In many cases it will not be necessary to remove the mattress from the bed prior to cleaning.

The power unit can be cleaned by wiping down with a cloth dampened with one of the solutions in '1' or '2' below.

The mattress and mattress cover can be cleaned using the following simple procedure:

1. Liberally swabbing with hot water containing detergent, then drying.
2. Swabbing with a solution of sodium hypochlorite (up to 10,000 parts per million available chlorine), then drying.

The mattress cover can also be machine washed to a maximum temperature of 71°C.

To remove the cover, turn the power unit off, disconnect the airpipe, unzip the cover, undo the 4 clips securing the mattress to the cover and pull the airpipe through from the inside of the cover. The mattress can now be taken out of the cover.

Remove the foam base from the cover prior to washing the cover.

Replacement is the reverse of the above.

The system may also be decontaminated by using ETO (Ethylene Oxide) or the Draeger Method.

CAUTION **Do not high temperature Autoclave or use Phenolic based products for cleaning.**

SECTION H – USER SERVICING AND SERVICE

The **BI≈WAVE PLUS** System has been designed for ease of use and contains no user serviceable items. If you have any queries about the operation of the system contact your supplier.

If the system becomes defective during the warranty period, it will be repaired or replaced free of charge in accordance with the system warranty.

To help us identify the system when telephoning, please make a note of the serial number which you will find on the label on the rear of the power unit or on the foot end of the mattress.

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BI≈ WAVE PLUS MODEL No. 5201
SERIAL NUMBER XXXXXXXXXX


MADE IN THE UNITED KINGDOM
220 - 240 VOLTS ~50Hz 40VA

Isolate from mains before removing cover. Unit contains no user serviceable parts. Only to be opened by qualified service personnel.

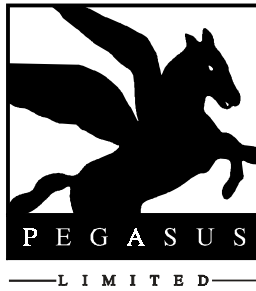
   

SECTION I – TECHNICAL DATA

<p>Cycle Control</p> <p>Cycle Time</p> <p>Supply Voltage</p> <p>Power Rating</p> <p>Fuse Rating</p> <p>Noise Level</p> <p>Nominal Dimensions</p> <p>Electrical Safety</p> <p>Classification</p> <p>Mode of Operation</p> <p>Symbols</p> <p>Environment (Usage and Storage)</p> <p>EMC</p>	<p>Purpose designed distributor valve supplying operating air to the inflatable cells</p> <p>12 minutes</p> <p>220/230 Vac 50Hz</p> <p>40 watts</p> <p>2A</p> <p>NC30</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Mattress (Inflated)</td> <td style="width: 50%;">Power Unit</td> </tr> <tr> <td>Length: 1900mm</td> <td>Height: 300mm</td> </tr> <tr> <td>Width: 880mm</td> <td>Width: 220mm</td> </tr> <tr> <td>Height: 230mm</td> <td>Depth: 130mm</td> </tr> <tr> <td>Weight: 8.1kg</td> <td>Weight: 2.7kg</td> </tr> </table> <p>Conforms to BSEN 60601-1</p> <p>Class 2, Type B</p> <p>Continuous</p> <p style="text-align: center;"></p> <p style="text-align: center;">Alternating Current</p> <p style="text-align: center;">  </p> <p style="text-align: center;">Mains Switch - 1 (On) Power connected to the mains supply 0 (Off) Power disconnected from mains supply</p> <p style="text-align: center;"></p> <p style="text-align: center;">Class 2</p> <p style="text-align: center;"></p> <p style="text-align: center;">Type B</p> <p>Air Humidity: 10% to 85%</p> <p>Ambient Temperature: -10°C to +60°C</p> <p>This equipment complies with EMC requirements. If effects are noticed the affected equipments should be moved apart.</p>	Mattress (Inflated)	Power Unit	Length: 1900mm	Height: 300mm	Width: 880mm	Width: 220mm	Height: 230mm	Depth: 130mm	Weight: 8.1kg	Weight: 2.7kg
Mattress (Inflated)	Power Unit										
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Weight: 8.1kg	Weight: 2.7kg										

	<p>This product carries the CE mark in accordance with EC Directive on Medical Devices (93/42/EEC).</p>
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Pegasus Limited cannot be held responsible for any damage caused to our products (by foreign objects – needles, sharps, eating utensils, etc) other than due to normal wear and tear as defined in the product warranty agreement. Nor for any injury or incident which relates to the use of cot sides, profiling or any other mechanical or electrical device used in conjunction with this product unless supplied and/or manufactured by Pegasus Limited.



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