



Cairwave™



User Guide



CAIRWAVE™



The **CAIRWAVE** Therapy System is suitable for patients showing any of the following characteristics:

- At any degree of risk, including those at very high risk of pressure sores
- Suffering any grade of pressure sore
- Immobile while in bed
- Altered sensory perception

The **CAIRWAVE** Therapy System completely eliminates skin surface pressure at frequent intervals. This unique 'Zero Pressure' phase encourages the blood flow necessary to maintain healthy tissue, thereby giving therapy to and prevention from pressure sores even in the most vulnerable patients.

By frequently eliminating pressure under the patient, the **CAIRWAVE** Therapy System also removes the need for repositioning to prevent pressure sores and is equivalent to turning a patient every 7.5 minutes.

The ergonomic design of the system including its **CAIRCOVER** and quiet operation ensure comfort and restfulness for the patient.

The needs of the carer have also been incorporated in the development of the **CAIRWAVE** Therapy System with the optimum user-friendliness and the automatic adjustment to patient characteristics. Special attention has been given to the ease of cleaning.

CAIRWAVE THERAPY SYSTEM

CONTENTS

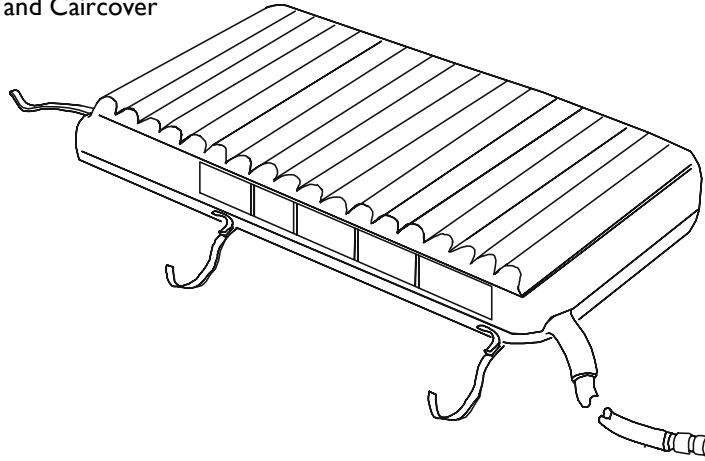
SECTION		PAGE
A	GETTING STARTED	2
	List of Parts	2
	Setting Up	2
B	PATIENT MANAGEMENT UNIT OPERATION	5
	Front Panel Functions	5
	Fast Inflation Mode	5
	Normal Mode	5
	Static Mode	5
	Cardio Pulmonary Resuscitation (CPR)	6
	Alarm Functions	7
	Transport Mode	7
C	PROFILING AND GATCHING	8
	Profiling	8
	Gatching	9
D	SYSTEM REMOVAL	9
	Deflation	9
	Removal	10
	Carrying and Storage	10
E	ALARMS AND FAULT FINDING	10
	Alarm Function	10
	Fault Finding	11
F	CLEANING	11
G	CAIRCOVER REPLACEMENT	12
H	USER SERVICING AND SERVICE	13
I	TECHNICAL DATA	14

SECTION A – GETTING STARTED

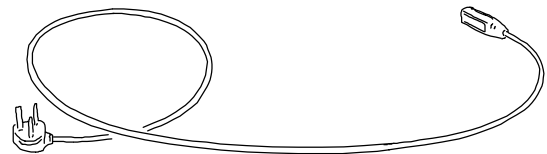
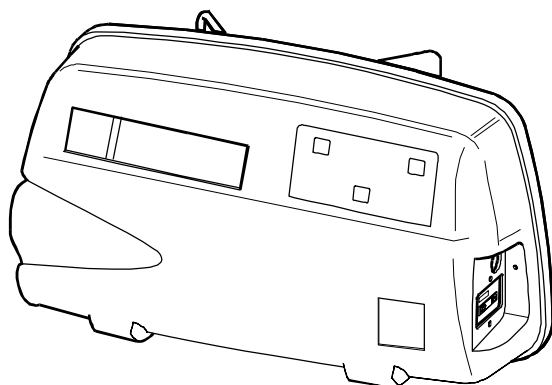
LIST OF PARTS

Check that all parts are present before assembling the system.

Mattress and Caircover



Patient Management Unit (PMU)

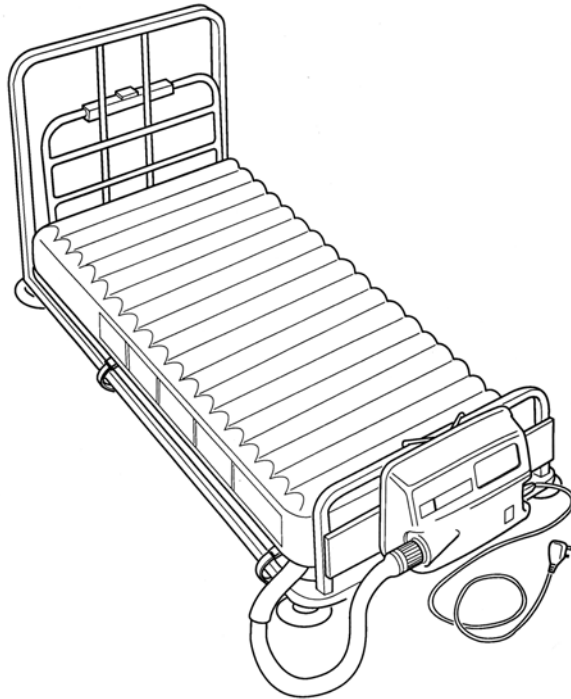


Power Lead

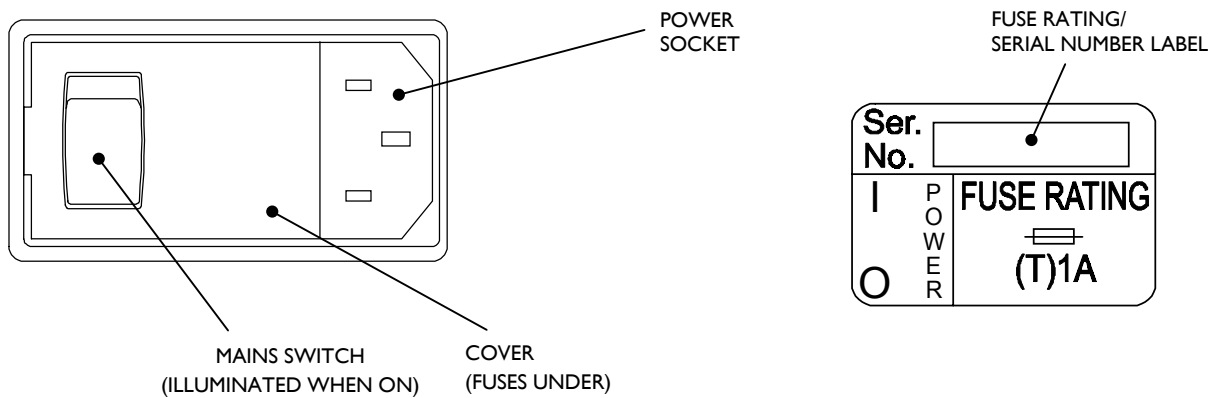
SETTING UP

The **CAIRWAVE** Therapy System can be used on standard hospital, domestic and profiling beds. Follow these easy steps:

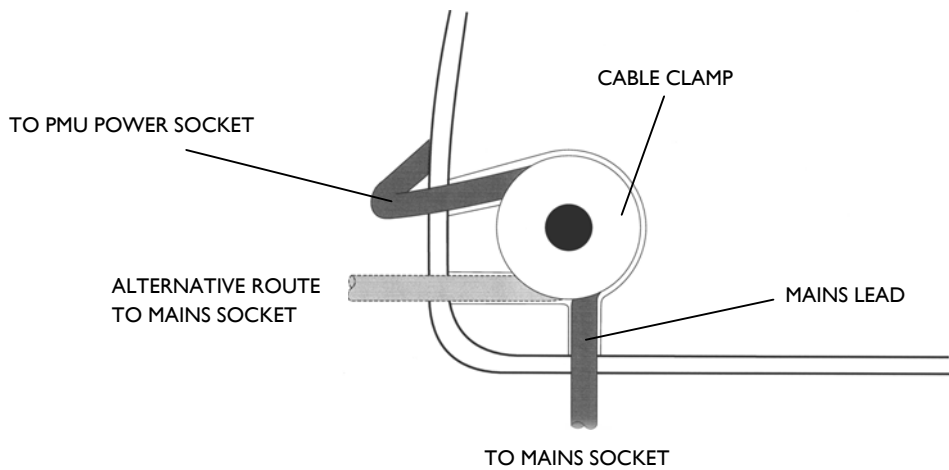
1. Lower the bed if possible. Remove the existing mattress from the bed frame.
2. Check that there is nothing to damage the **CAIRWAVE** Therapy System mattress, such as sharp edges or springs. If your bed frame does not have a solid base the use of a fracture board or similar firm base is advisable to ensure maximum benefit.
3. Place the mattress on the bed with the airpipe at the foot end of the bed.
4. Loosely secure to the bed frame using the cover straps provided. Do not fasten straps to removable head or foot boards.



5. Plug the socket of the mains lead into the Patient Management Unit (PMU). The mains switch, power socket and fuses are situated on the right-hand side of the PMU with a fuse rating label alongside.

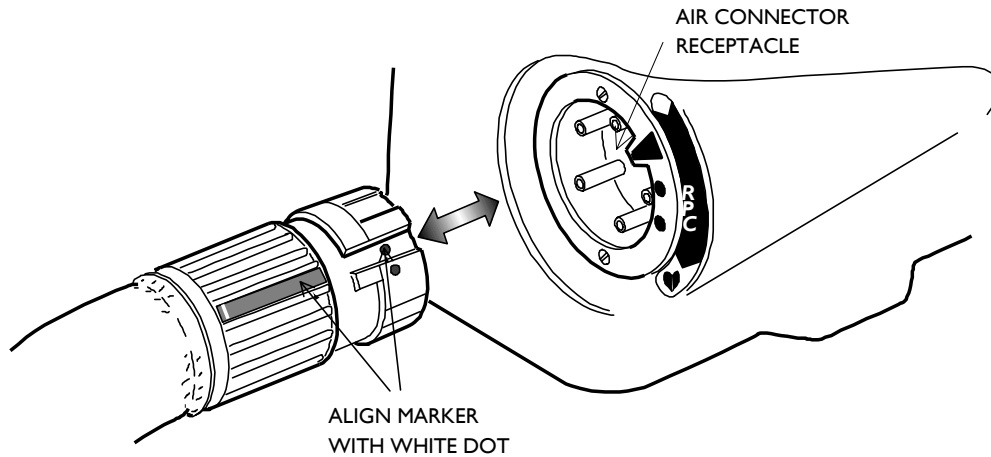


6. Secure the lead to the back of the PMU using the cable clamp provided.

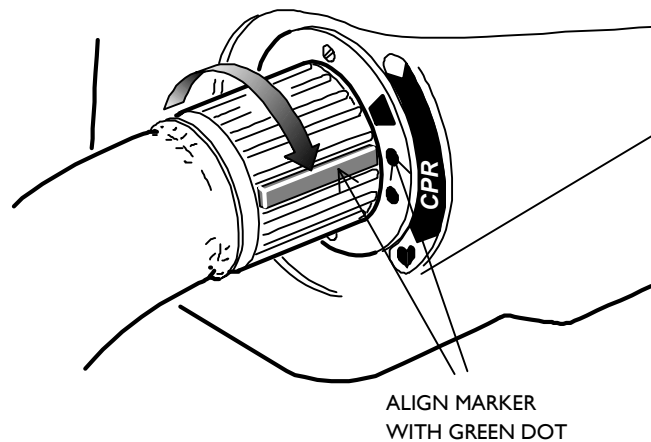


7. Open the hooks on the rear of the PMU, place over the foot of the bed and close until the hooks are tight against the bed frame and the PMU is held securely.
8. Connect the airpipe connector into the PMU and turn to the Normal position.

Unit Connection/Disconnection (Transport)



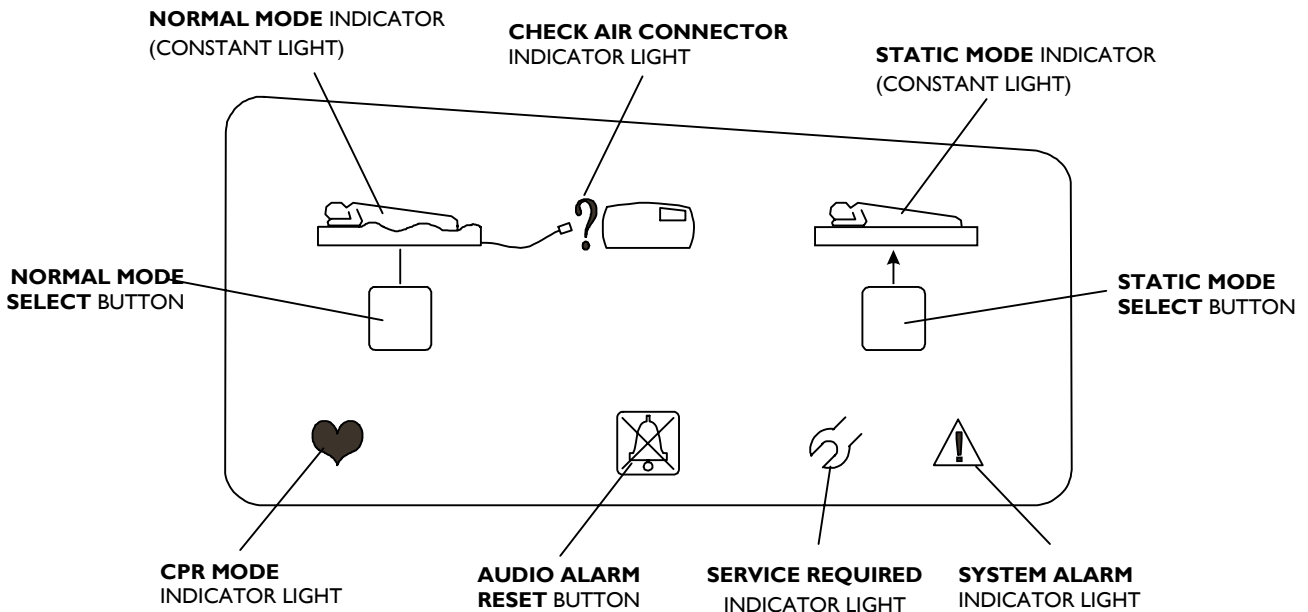
Normal Running



9. Plug the mains lead into a suitable electrical socket and switch ON the PMU. The audible alarm will sound and all the lights on the front panel will illuminate for approximately 2 seconds. The unit will then go into Fast Inflation Mode (for Fast Inflation Mode, see Section B - Patient Management Unit Operation).
10. After approximately ten minutes your mattress will reach full inflation pressure, indicated by a constant green light, check the straps, tighten where necessary. If required, straighten and smooth out the **CAIRCOVER** as described in Section G.
11. The **CAIRWAVE** Therapy System is now ready for use. 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.
12. Once a patient is placed on the mattress the system will adjust automatically to the patient characteristics (weight/position) to provide optimum clinical benefit.
13. If your mattress does not perform as described above, please refer to the 'Alarm System' section of this guide.

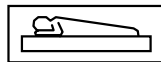
SECTION B – PATIENT MANAGEMENT UNIT OPERATION

FRONT PANEL FUNCTIONS



The Patient Management Unit (PMU) front panel both controls and indicates the various functions of the **CAIRWAVE** Therapy System, including sophisticated audio and visual indicators. These functions are described below.

FAST INFLATION MODE (Fast Mattress Inflation)



When switched ON with the air connector in Normal position and the mattress fully deflated, the system will automatically go into Fast Inflation Mode for approximately 10 minutes to ensure the mattress inflates quickly, allowing the system to be used in the shortest possible time. While the system is in Fast Inflate Mode, the amber Static Mode indicator light will continually flash.

If the system is switched ON with a partially inflated mattress, Fast Inflation will continue for a shorter period before reverting to Normal Mode.

NORMAL MODE (Normal System Operation)



When the Fast Inflation Mode is completed, the system will automatically go into Normal Mode with the mattress cells inflating and deflating (cycling) and the green Normal Mode indicator light constantly illuminated. When a patient is placed on the mattress in the Normal Mode, the system will, if necessary, automatically adjust to the patient characteristics (weight/position) to give optimum benefit.

STATIC MODE (Mattress not Cycling)



WARNING: The patient will not receive the benefits of the **CAIRWAVE** Therapy System while it is in static Mode. Therefore the system should be returned to Normal Mode as soon as possible.

Some nursing procedures may require a static, fully inflated mattress. This is achieved by pressing the Static pushbutton to initiate Static Mode, a single beep will sound to indicate Static Mode is selected. Static Mode enables the PMU to inflate all cells fully and to maintain full inflation. When Static Mode is selected, the amber Static Mode indicator light will illuminate.

The mattress will be maintained in Static Mode for 30 minutes, at which time the system will automatically revert to Normal Mode. To extend the duration of Static Mode, press the Static Mode pushbutton within the last 5 minutes of the Static Mode and it will be extended for a further 30 minutes. To enable the extension to be made, an alarm will sound when Static Mode reaches its last five minutes. The timed extension can only be carried out once, after which the system will then revert to Normal Mode.

Static Mode cannot be re-selected for 30 minutes after the completion of the extension time.

Normal Mode can be reselected at any time by pressing the Normal Mode pushbutton.

CARDIO PULMONARY RESUSCITATION (CPR)

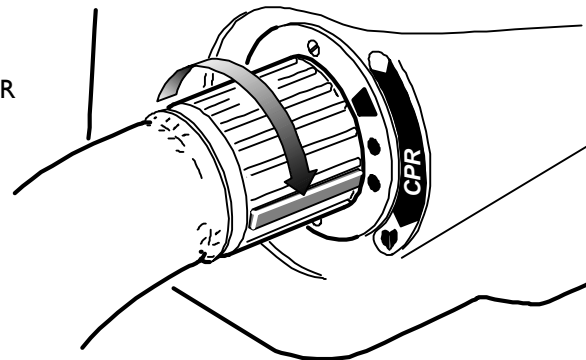


In the event of cardiac arrest, turn the air connector to the CPR position. The mattress will immediately begin to deflate.

FOR RAPID DEFLATION TURN
CONNECTOR FULLY IN DIRECTION OF
ARROW

(DO NOT DISCONNECT)

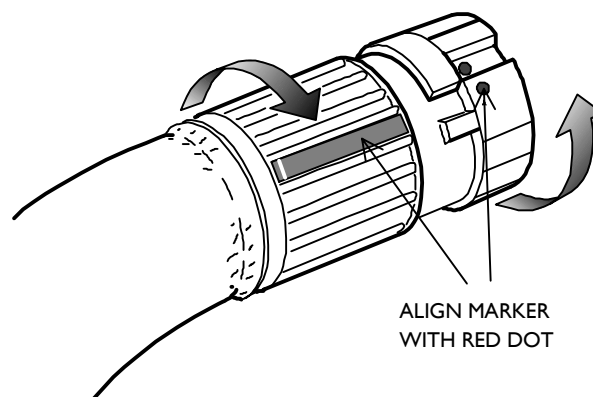
♥ CPR



When the connector is turned to the CPR position the alarm will sound for a few seconds and the red heart will flash. Cancel the alarm by pressing the Audio Alarm Reset pushbutton. The flashing red heart will cancel when CPR is no longer selected or if the Patient Management Unit (PMU) is switched off.

If CPR is required while the bed is being moved and the system is in Transport Mode, ensure the connector is disconnected from the PMU, turn the air connector to the deflate position. This will allow the mattress to deflate to enable CPR to be carried out.

Deflation or ♥ CPR during Transport



ALARM FUNCTIONS

CHECK AIR CONNECTOR INDICATOR LIGHT



The amber Check Air Connector indicator light will flash when the air connector is not correctly in place or is in the Transport Mode with the PMU turned on.

SERVICE REQUIRED INDICATOR LIGHT



The amber Service Required indicator light will flash after 10,000 hours of use, when a routine system service will be required - contact the Service Organisation. The system will continue to function normally whilst in this state.

SYSTEM ALARM



The red System Alarm indicator light will flash and the audible alarm will sound if there is a system fault. The audible alarm will also sound when the system loses power or is switched off, when CPR is selected, when the system is in Transport Mode, or when the system reaches the last 5 minutes of Static Mode. There will be a single beep when the Static or Normal Mode pushbuttons are pressed to select the desired mode.

The System Alarm indicator light can only be reset by turning off the PMU.

ALARM RESET BUTTON



Resets the audio alarm when pressed.

TRANSPORT MODE

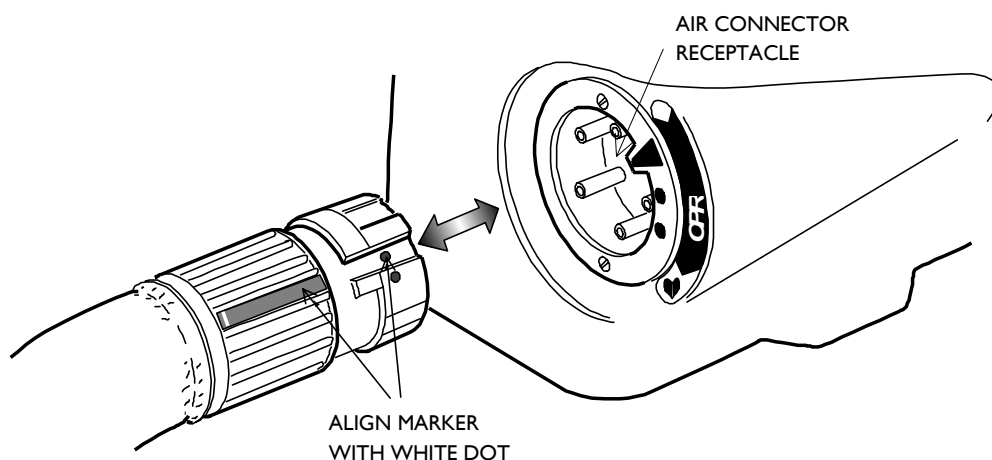
(Mattress not Cycling)

WARNING: The patient will not receive the benefits of the CAIRWAVE Therapy System while it is in Transport Mode. Therefore the system should be returned to Normal Mode as soon as possible.

NOTE: Prior to disconnecting the mattress for transport, it is recommended that Static Mode is selected to inflate all cells to provide maximum support for the patient during transport.

When moving the bed with the mattress still inflated, or in the case of power failure, turn the air connector to the Transport position and disconnect. This will maintain the cells in their present state for approximately 24 hours.

Unit Connection/Disconnection (Transport)



The amber Check Air Connector indicator light will flash and the audio alarm will sound until the Patient Management Unit (PMU) is switched OFF. Turn OFF the PMU and unplug from the mains supply. An audible alarm will sound - cancel the alarm by pressing the Alarm Reset pushbutton. The bed can now be moved.

When the bed has been moved to its new location, connect the PMU to the mains supply as soon as possible and turn ON. Reconnect the air connector and turn to the Normal position.

The system will default to Fast Inflation Mode, then automatically revert to Normal Mode.

SECTION C – PROFILING AND GATCHING

Your **CAIRWAVE** Therapy System can be used in a profiled position to provide pressure relief for patients sitting up in bed, and/or when knees are raised.

CAUTION: Fastening securing straps to the bed head may impede its removal in an emergency.

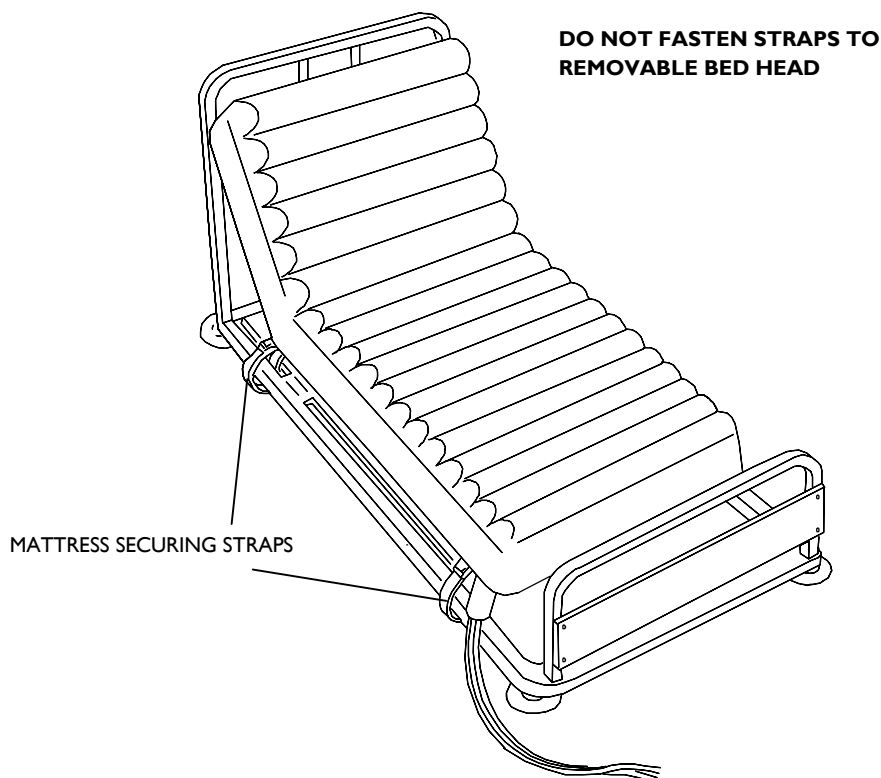
PROFILING (Sitting Up)

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 do not interfere with the bed mechanism when used in its various positions.

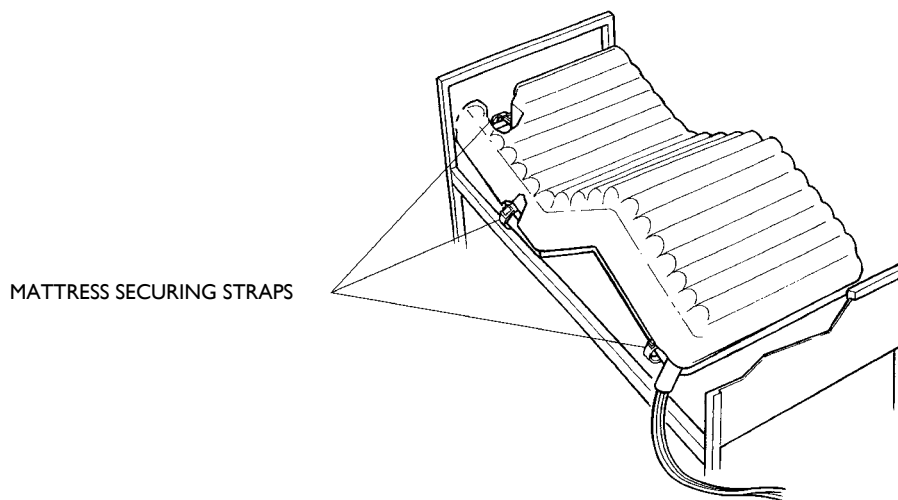


GATCHING (Bending at the Knees)

Release the mattress securing straps.

Gatch the knee section as required, being careful not to disturb the Patient Management 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 do not interfere with the bed mechanism when used in its various positions.



SECTION D – SYSTEM REMOVAL

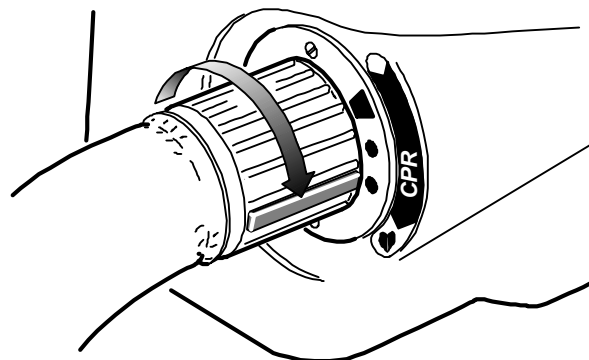
DEFLATION

To deflate your **CAIRWAVE** Therapy System, follow these easy steps:

1. With the system operating normally, turn the air connector to the CPR position. The mattress will immediately start to deflate, the audible alarm will sound and the red heart will flash. Cancel the audio alarm by pressing the alarm reset button.

FOR RAPID DEFLATION TURN CONNECTOR
FULLY IN DIRECTION OF ARROW

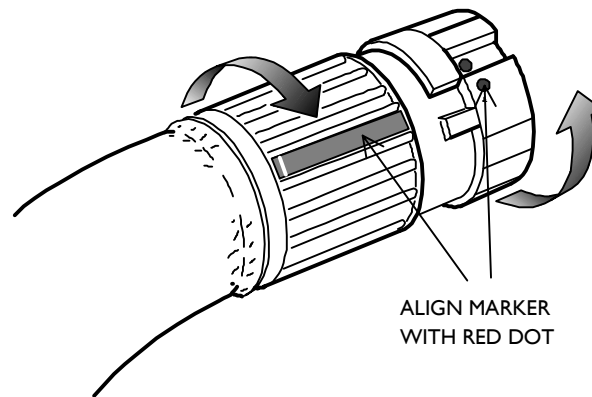
(DO NOT DISCONNECT)



2. When deflated, disconnect the mattress, switch off the Patient Management Unit (PMU), cancel the alarm and disconnect from the mains supply.

3. When in Transport Mode, turn the air connector to the Deflation position. The mattress will immediately start to deflate. If you wish to deflate quicker, apply downwards pressure to the mattress and press out as much air as possible.

Deflation or ♥ CPR during Transport



REMOVAL

Carry out mattress deflation as detailed above. Undo the mattress securing straps. Roll the mattress, with the top surface inwards, from the head end.

Remove the PMU from the bed and fold the hooks into the recesses in the back.

CARRYING AND STORAGE

To help with carrying and storage of your **CAIRWAVE** Therapy System, high quality carry bags for the mattress and the PMU are available.

For details, please contact your supplier.

SECTION E – ALARMS AND FAULT FINDING

ALARM FUNCTION

Your **CAIRWAVE** Therapy System is equipped with sophisticated audio and visual indicators. These alert the user to the status of the available mains supply and any system defect.

In normal conditions with mains power available, the Patient Management Unit (PMU) turned on and the mattress fully inflated and cycling, the Normal Mode indicator light on the PMU front panel will be green and the mains light on the switch socket illuminated.

If at any time the mains power should be removed from the PMU, an audible alarm will be heard. The audible alarm may be cancelled by pressing the Alarm Reset Pushbutton on the PMU, the System Alarm indicator light can be cancelled by switching OFF the PMU.

Should your system develop a fault whilst in use, the System Alarm indicator light will turn red and an audible alarm will be heard. This alarm may be cancelled by switching OFF the PMU and then pressing the Alarm Reset Pushbutton.

FAULT FINDING

SYMPTOM	ACTION
No Lights on PMU	Check PMU is connected to the mains power supply and that the PMU mains switch is turned ON
'Check Air Connector' indicator light flashing and alarm sounding	Reset audio alarm by pressing the Alarm Reset pushbutton Check air connector is connected and turned to the Normal position. The Check Air Connector indicator light will automatically reset and extinguish

If problem persists, contact your supplier.

SECTION F – CLEANING

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

CAUTION: Do not immerse the Patient Management Unit.

The Patient Management Unit can be cleaned by wiping down with a cloth dampened with one of the solutions in '1.' or '2.' below, or decontaminated using ETO (Ethylene Oxide) or Draeger system.

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

Your mattress, **CAIRCOVER** and airpipe cover can be cleaned using the following simple procedure in accordance with your Local Infection Control Policy (check with a registered nurse or medical practitioner for details):

NOTES: Ensure the Patient Management Unit is turned off and is 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.

1. Liberally swabbing with hot water at 60°C containing detergent, then drying.
2. Swabbing with a solution of sodium hypochlorite (up to 10,000 parts per million available chlorine) - then drying.

The **CAIRCOVER** and airpipe cover can also be machine washed to a maximum temperature of 90°C. Removal and replacement of the **CAIRCOVER** can be carried out as detailed in Section G.

The **CAIRCOVER** and mattress must be dry prior to refitting. Do not tumble dry.

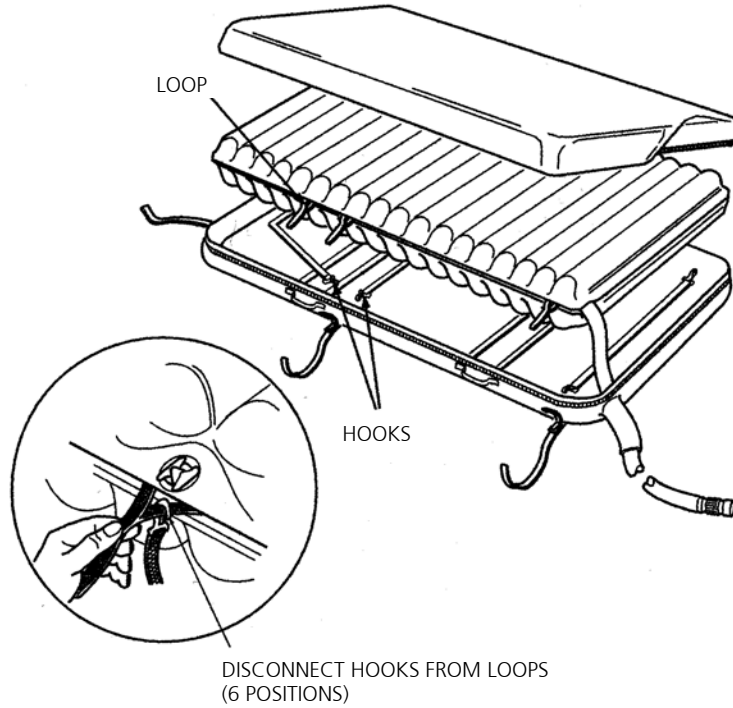
The system may also be decontaminated by using ETO (Ethylene Oxide) or the Draeger method.

The **CAIRCOVER** top may be low temperature autoclaved (75°C) using autoclave paper to protect the coated surface. For further information, contact your supplier.

SECTION G – CAIRCOVER REPLACEMENT

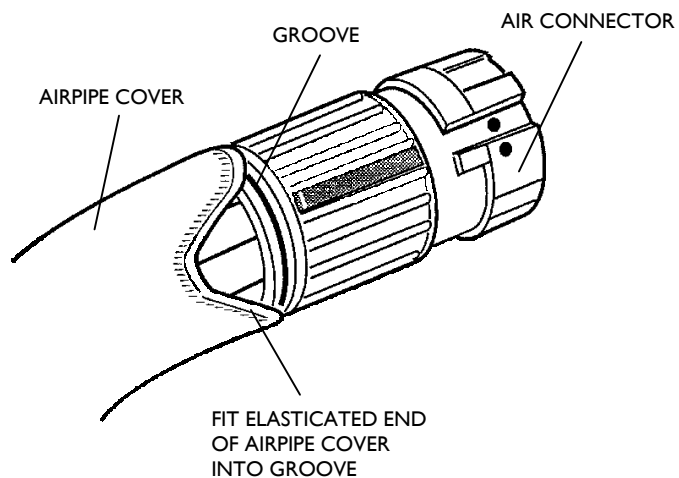
To remove the **CAIRCOVER** and airpipe cover:

1. Fully unzip the cover and remove the top section.
2. Release the strap securing the airpipe cover to the mattress pipes and remove the airpipe cover.
3. Undo the 6 clips securing the mattress to the **CAIRCOVER** bottom section, pull the airpipes through the sleeve in the cover and lift the mattress out of the cover bottom section.

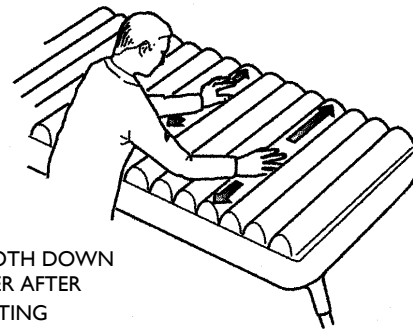
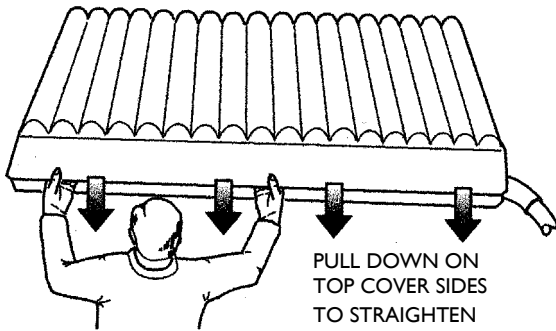


Replacement is the reverse of the above, with the following additions:

1. When fitting the airpipe cover, ensure the elasticated end fits fully into the groove on the air connector. Loosely refit the strap around the internal pipes.



- Inflate the mattress, pull down on the top cover sides to straighten the cover then smooth down to ensure the cover sits over the mattress snugly.

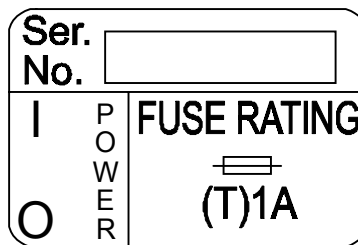


SECTION H – USER SERVICING AND SERVICE

The **CAIRWAVE** Therapy 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 your system becomes defective during the warranty period, it will be repaired or replaced free of charge in accordance with your system warranty.

To help us identify your unit when telephoning, please make a note of the unit serial number which you will find on the label by the Patient Management Unit (PMU) mains switch, on the label on the rear of the PMU, or on the foot end of the mattress next to the airpipe.







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CAIRWAVE™
 MODEL No. 7303. SER No.

MADE IN THE UNITED KINGDOM 220-240 VOLTS ~ 50 Hz 100VA

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

SECTION I – TECHNICAL DATA

Cycle Control	Purpose designed distributor valve supplying operating air to the inflatable cells with vacuum assisted air removal	
Cycle Time	7.5 minutes	
Supply Voltage	220/240Vac 50Hz	
Power Rating	Maximum 100VA. Constant running rate approximately 50VA	
Fuse Rating	1A Antisurge (x2)	
Noise Level	NC30	
Nominal Dimensions	Mattress (Inflated)	Patient Management Unit
	1930mm long	175mm deep
	880mm wide	510mm wide
	210mm high	260mm high
	Weight 9.5kg	Weight 8.65kg
Electrical Safety	Conforms to EN 60601-1-1	
EMC	Conforms to EN 60601-1-2	
Classification	Class 1, Type B	
Flammability Rating	Mattress Cover Materials comply with BS7175 Ignition Sources 0, 1 and 5	
Mode of Operation	Continuous	
Symbols	   	<p>Fused with two 1A Antisurge Fuses</p> <p>Alternating Current</p> <p>Mains Switch - 1 (On) Power connected to the mains supply - 0 (Off) Power disconnected from mains supply</p> <p>Type B</p>

	<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

NOTES



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