



# **AMBER**

## **USER MANUAL**



2 – 1 Alternating +  
Micro Air Loss Mattress Replacement System  
Dial Pump

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## GENERAL WARNING

- Connect the Master Control unit to a proper power source.
- Don't use the system in the presence of any flammable gases (such as Anaesthetic Agents).
- Keep the pump and mattress away from open flame, water and fluids.
- Keep the mattress away from sharp objects.
- Don't place heating devices close to the mattress system.
- At anytime if the operator may consider this product to be unsafe, please do not use.

## CAUTION

- Use the mattress under physicians instruction.
- Regular repositioning of the patient is still necessary when using this system.
- The control unit can only be repaired by an authorised distributor.
- (The circuit diagram, repairable component parts list, and service manual is released only to authorised distributors).
- Do not drop the control unit
- Do not store the system in direct sunlight or extreme cold conditions.

*Information contained in this booklet is subject to change without notice.*

## 1. INTRODUCTION

This user manual describes the set up, cleaning and routine maintenance of the Amber Alternating Pressure Air Therapy Support System. We recommend you keep this manual handy.

- The AMBER is an automatic alternating pressure relief mattress with 2-1 alternation providing pressure relief.
- The system is for use on a hospital bed, a domestic bed or on a nursing home bed.
- The installation is simple.
- The patients posture can be adjusted as required without impeding in the AMBER operation.
- The AMBER is suitable for patients at medium risk of pressure ulcer development.
- The system is easy to clean.
- The system has been tested and approved to the following standards:

- ◇ EN 60601-1-2:1993
- ◇ EN 61000-3-2:1995
- ◇ EN 61000-3-3:1995

## 2. CLINICAL APPLICATION

- The AMBER 2-1 Alternating + Micro Air Loss Mattress Replacement System is designed for those assessed to be medium risk of pressure ulcer development.
- AMBER can be used in any patient environment.
- The system implements the latest flow rate, low noise pump unit and adjustable pressure setting control which caters for individual comfort.
- The special twin cells design provides optimum support and maximum stability.
- Contraindication: unstable fracture or medical advice.
- Minimum patient weight 50kg, Maximum 180kg. Subject to correct settings.

### **3. PRODUCTION DESCRIPTION**

The AMBER is an alternating or static pressure mattress replacement system. The pump operates automatically to produce alternating pressure wave between 2 sets of cells.

#### **3.1 PUMP Master Control Unit (CSI-29)**

The pump unit is user friendly and most of the functions are self explanatory.

Dual Mode Selection:

- Dynamic function provides 2-1 alternation (one cells up one down)
- Static function provides a stable support surface with continuous low interface pressure.

Power failures produce an audio alarm for added safety. Low pressure alert function indicates a possible low pressure fault during initial inflation. Unique hanging bracket provides simple attachment.

#### **3.2 MATTRESS**

Easy to install and use in hospital or home environment. Individual air cell design for maximum pressure distribution. Air cells have orifices to provide micro air loss therapy. Ultra stretch, water resistant top cover enhances comfort and minimises hammocking, shear, friction and heat build up.

- Modular construction for easy care cleaning and maintenance.
- CPR quick release deflates the system in 45 seconds.

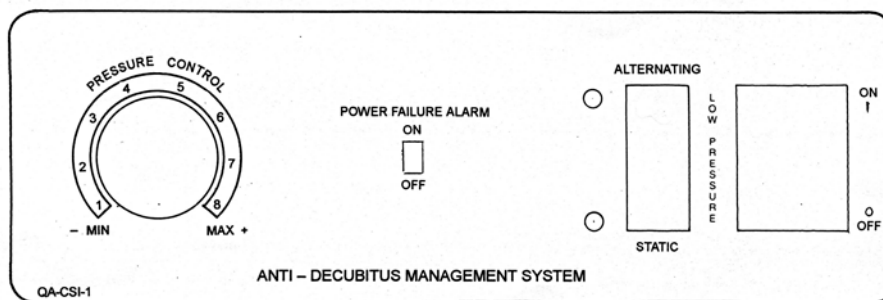
### **4. INSTALLATION**

1. Remove the hospital mattress.
2. Ensure there are no sharp objects protruding from the surface where the AMBER mattress is to be placed.
3. Unroll the mattress on the support surface, with red release valve labeled 'CPR' near the patients head, on the left side of the bed. Do not put the patient on the bed yet.
4. Perform a general check by opening the side zipper, making sure the air sacs are well distended and all the tubing connectors are solidly fitted, then close the zipper.
5. Check that the red CPR release valve is in the closed position.
6. Hook the pump on the beds footboard, controls facing out, using the foldable hooks on the back of the unit.
7. Connect the air supply tubes from the mattress to the pump, making sure that the tubes are not cut, compressed or kinked, as this could cause mattress malfunctions. Loop up excessive tubing with touch tape strips provided to avoid a tripping hazard.
8. Insert power cord into cord sleeve on the side and zip up the whole length. Ensure that the pump is compatible with your local electrical supply and that you are not in the presence of flammable (eg. anaesthetic) gases.
9. Connect the pump to an adequate, grounded, electrical power outlet and turn the unit on by pressing on the green POWER switch.

You are now ready to adjust setting for patient use.

## 5. OPERATION

### ◆ Pressure Adjustment



The black PRESSURE CONTROL knob selects the Mattress pressure as a function of the patients' weight. **Note:** Settings are to be used as a guide only. When first inflating mattress, it is useful to turn this to the maximum (fully clockwise) and switch the operating mode to STATIC mode to speed up the inflation. Then switch back to alternating mode. The air cells in the mattress will take a few minutes to function again in the alternating mode.

**Note:** Settings are to be used as a guide only.

Setting	Weight Range	Setting	Weight Range
1	Up to 50 kg	2	50 to 70 kg
3	70 to 90kg	4	90 to 120 kg
5	120 to 150kg	6	>150kg

Operation instructions continued next page.

### 5. OPERATION (Continued)

The orange low-pressure indicator will turn off once the mattress is inflated to the correct pressure. **The patient should have at least 4 cm of clearance between the buttocks and the base of the mattress.** Perform a check by placing one hand under the patient buttocks between cells and the base.

The OPERATING MODE rocker switch allows you to choose the operating mode for the mattress:

- ALTERNATING green light (air sacs inside the mattress inflate and deflate)
- STATIC orange light (all air sacs inflate and never deflate)

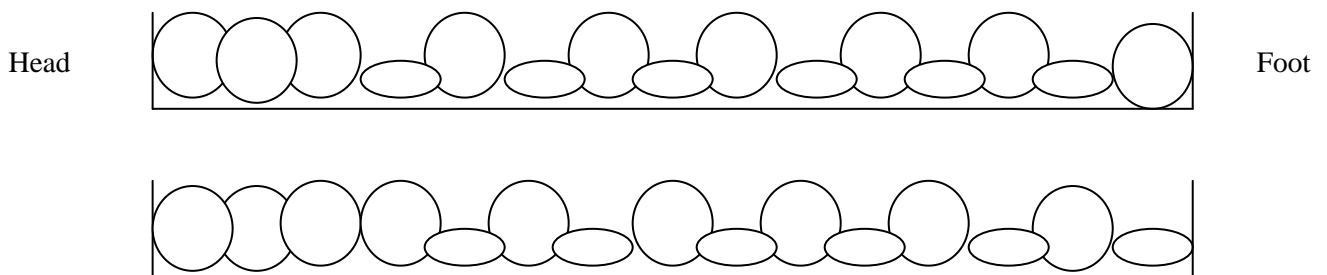
During normal use, it is best to keep the mattress in ALTERNATING mode as long as there are no contraindications.

### **WARNING**

**In use this mattress should be checked regularly for correct inflation. Failure to do so could cause patient injury.**

**It should not be used exclusively but in conjunction with pressure care management practice.**

One cell inflates the other deflates and vice versa.



2-1 Alternation Cycle Illustration

### **WARNING**

**Low pressure in the mattress is indicated when the Low Pressure warning light is illuminated orange. Users should be aware that during the initial inflation period the light will be illuminated and it should turn off once the system has reached the appropriate inflation pressure.**

**If the warning light should illuminate during patient use, the patient should be transferred to another bed or the alternating system should be replaced. The system should be removed and serviced by an authorised dealer.**

### **5. OPERATION (Continued)**

### ◇ **CARDIO PULMONARY RESUSCITATION (CPR)**

The CPR function is activated by turning to OPEN the red CPR handle on the left side of the mattress, near the patients head. Doing so opens all air sac inflation tubes to the air thus letting the mattress deflate in a few seconds.

### ◇ **TRANSPORT**

Amber can be configured for powerless transportation.

To disconnect unplug unit from mains power, unplug air hose from pump and place the grey cap over the end of the tube to prevent air leaks.

The mattress will keep inflation pressure for a period varying from 8 to 24 hours depending on mattress conditions and patients weight.

Once transport has been effected, remove the cap and reconnect the mattress to the pump. Plug unit into mains power and resume Operational Settings.

### **WARNING**

**The patient will not receive the benefits of the system in transport mode. Therefore the system should be returned to Operational Settings as soon as possible.**

## **6. CLEANING**

### ◇ **The Mattress**

Mattress Cover: wipe using a damp soft cloth with water and mild detergent.

If top cover or base cover becomes grossly soiled:

- Disconnect from pump
- Unzip the cover
- Unbutton all the air sacs and remove them from the bottom support surface.
- Disconnect the air sacs from all the tubing, taking note of the position of every piece.
- Remove the bottom support surface. Put aside all the tubing.
- Put the air sacs, the cover and the bottom surface in a washing machine.

To assemble connect air sacs to tubing, button air sacs to support base and zip on cover.

Covers can be washed and thermally disinfected in a washing machine as follows: (Never use phenol based cleaning solutions)

#### **Industrial**

Break wash cold	10 minutes
Main wash 60°C	6 minutes
Main wash 70°C	10 minutes
Extraction	2 minutes
3 Cold Rinses	

#### **Domestic**

Prewash	cold
Mainwash 70°C	10 minutes
Extraction	2 minutes
Cold Rinses	
Extraction	5 minutes

Tumble Drying or Tunnel Drying is not recommended.

Mattress cells can be wiped over with a solution of sodium hypochlorite 1000ppm or any other non- phenolic germicidal solution.

### ◇ **PUMP (Master Control Unit)**

## **WARNING**

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

The master control unit should be cleaned as required using a damp soft cloth and mild detergent. The pump casing is manufactured from ABS plastic and if the case is soiled the pump can be wiped down with a sodium hypochlorite solution to dilution of 1000ppm or any EPA-approved, hospital grade disinfectant. (Don't use phenol based cleaning solution).

## **7. STORAGE**

### **◇PUMP (Master Control Unit)**

- Check the power cord and plug for abrasions or excessive wear.
- Plug in the unit and check that air flows from unit hose connection ports.
- Place in a bag for storage.

### **◇MATTRESS**

- Check the air manifold for kinks or breaks. Replace if necessary.
- Open the CPR plug and disconnect tubes from PUMP. All the air will now be expelled. Roll from the head end. Use the straps to prevent unrolling.
- Place in a bag of storage.

It is recommended the following guidelines are used whenever this system is being stored or transported to another location:

Temperature limitations:	10°C - 40°C
Relative Humidity:	30% - 95%

## **8. WARRANTY**

◇ **Bosshard** guarantees that this equipment is free from defects in material and workmanship. Our obligation under this warranty is limited to the repair of equipment returned to the service address given below within 12 months after delivery to the original purchaser for all equipment.

◇ We agree to service and/or adjust any equipment returned for that purpose and to replace or repair any part, which is proven to be defective at no charge.

◇ This warranty excludes equipment damage through shipping, tampering, improper maintenance, careless, accident, negligence or misuse, or products which have been altered, repaired or dismantled other than with the manufactures written authorization and by its approved procedures and by properly qualified technicians.

◇ In no event shall Bosshard be liable for any direct or indirect damages or losses resulting from the misuse of equipment.

## **9. MAINTENANCE CHECKLIST**

Periodically check the following items and return to your dealer for service or repair.

## **PUMP**

1. Check the length of power cord for wear or damage.
2. Check for cracks or loose casing.
3. Inspect rear hanging hooks for excessive play or missing/loose screws.
4. Check for leaking air or excessive noise.
5. Check audible Low Pressure alarm for function by switch on during mattress inflation.
6. Inspect dials and switch for function and wear.
7. Check air line for leaks, kinking or damaged connections.

## **MATTRESS**

1. Check air cells and connections for wear and damage.
2. Inspect cell press studs are intact and functional.
3. Check CPR release released air in the ON position and seals in the OFF position.
4. Check all cells inflate and deflate in alternating mode.
5. Check attachment points are secure and not damaged.
6. Inspect cover for wear and damage.

Return to your dealer for periodical maintenance. The service period is dependant on the frequency or duration of use.

## **8. TECHNICAL DATA**

### **PUMP (Master Control Unit)**

Model No	CSI-29R2
Size (cm)	32(L)x12(W)x23(H)
Weight (kg)	2.3
Cycle type	2-1
Pressure range	10-70mmHg
Max Flow-rate	8 Ipm
Rated Voltage	220 ~ 240 volt
Max Current	0.1 Amp
Rated Frequency	50 Hz
Protection Type	Class II, Type BF
Mode of Operation	Continuous
Safety Standard	TUV/BSI

### **MATTRESS**

Model No	CSI-32
Size (cm)	89(W)x198(L)x13(H) (H20 as Mattress Replacement)
Weight (kg)	6kg (Overlay)10kg (Mattress)
Cells Material	PU coated Nylon 0.4mm
Cover Type	Zippered Cover with Dacron padding
Cover Material	Polyurethane (PU) Coated knitted Nylon
Base Material	500 D coated Nylon
Minimum patient Weight	50kg
Maximum patient Weight	180kg