



# *MOBILE AIR CHAIR<sup>®</sup>*

## **Pressure Relieving System**

## Operating Instructions

**Tridien Medical**

Revision: AO-SM150-03

## WARNING

Before operating this medical equipment, it is important to read this manual and to understand the operating instructions and safety precautions. Failure to do this could result in patient injury and/or damage to the product. If you have any questions, please contact Tridien Customer Service at **800-474-4225**

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## 1.0 SAFETY PRECAUTIONS –

**Physician Orders** – The MOBILE AIR CHAIR should only be used by order of a physician. Always consult with the patient’s physician before placing a patient on the MOBILE AIR CHAIR system.

**Contraindications** – Certain medical conditions and treatments may be contraindicated for use of the MOBILE AIR CHAIR System. Always consult with the patient’s physician before placing a patient on the MOBILE AIR CHAIR system.

Caregivers should always use reasonable judgment when using this product.

### **Electronic Controller –**

- Do not place any objects/items on or over the electronic controller. Excessive weight on the MOBILE AIR CHAIR controller could result in damage to the attachment system and/or the electronic controller.

**CAUTION!** Exposure of the electronic controller to any liquid while it is plugged in could result in a severe electrical hazard.

- The MOBILE AIR CHAIR circulates room air during operation. Exposure to smoke may cause the system to fail. Therefore, smoking by patients or visitors while using the MOBILE AIR CHAIR is strongly discouraged.
- Only use the power cord supplied with the MOBILE AIR CHAIR system.
- Use care when handling or transporting the MOBILE AIR CHAIR controller. Dropping or other sudden impacts may result in damage to the controller.

**CAUTION!** Do not attempt to service or repair the electronic controller. Any service or repair should be done by Tridien Medical (Tridien”). If the unit is not functioning properly, or has been damaged, unplug the unit, disconnect the battery (See Section 4.4.5) and take it out of service immediately. Contact Customer Service at **800-474-4225** for service and repair information.

- When the power cord is attached, it should be positioned to avoid a tripping hazard and/or damage to the cord.

## 2.0 PRODUCT OVERVIEW -

The MOBILE AIR CHAIR is a portable, microprocessor controlled therapeutic **Pressure Relief** seat cushion.

The ***Alternating Pressure*** feature of the MOBILE AIR CHAIR provides pressure relief by sequentially deflating and inflating alternate air cells on a timed interval. It is widely recognized that constant pressure to a bony prominence is the leading cause of skin breakdown. The continuous movement provided by the MOBILE AIR CHAIR system alleviates these areas of constant pressure and enhances circulation.

The MOBILE AIR CHAIR electronic controller provides a real-time display of the air pressure for both the inflated and deflated air cells. The deflated air cells provide pressure relief, while the inflated air cells support the patient's weight. The amount of pressure to support a patient can be set automatically, based on the patient's weight, or can be set manually for custom configurations.

All patient settings are stored in memory when the power is turned off. When the power returns, the MOBILE AIR CHAIR automatically returns to previous program settings.

## 3.0 INSTALLATION –

**NOTE:** It is recommended that all shipping and packing material be saved in the event that the product has to be returned to Tridien.

### 3.1 Unpacking and Inspection

Carefully remove all system components from the shipping cartons and inspect for any damage that may have occurred during shipping. Any damages, or missing components, should be reported to Tridien Customer Service, as soon as possible. You should have received:

**MOBILE AIR CHAIR Cushion:** The box contains a completely assembled therapeutic air cushion consisting of:

- Foam Wedge
- Overlay with attached air hoses
- Coverlet - Made with a washable/“breatheable” material.

**MOBILE AIR CHAIR Electronic Controller:** The box contains a battery-powered electronic air controller with an electrical cord for recharging.

**MOBILE AIR CHAIR Controller Case:** The case is packaged with the electronic controller and is used to attach the controller to the wheelchair during mobile operation.

### 3.2 Installation Requirements:

#### 3.2.1 Operating Environment -

The MOBILE AIR CHAIR system is designed to operate in a controlled environment, which is free from extreme temperatures, high humidity and/or excessive amounts of airborne particulates, such as dust and smoke.

#### 3.2.2 Charging the Battery -

The MOBILE AIR CHAIR battery should be charged for 24 hours prior to use. See Section 4.4 for battery charging instructions and on ongoing battery operation.

#### 3.2.3 Installation of MOBILE AIR CHAIR Cushion -

Place the MOBILE AIR CHAIR cushion directly on the wheelchair seat with the hose connections positioned towards the back of the chair. The straps with D-rings provided can be used to further secure the cushion if necessary. For best performance, remove any other seat material that may be present.

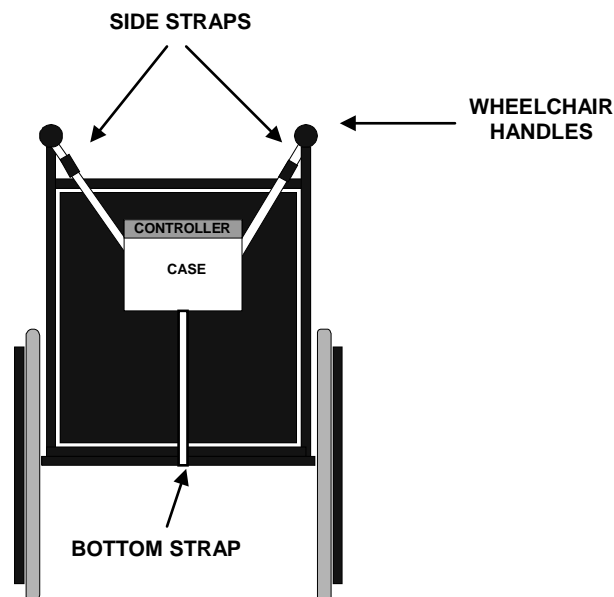
**IMPORTANT!** Make sure the excess hose does not become crimped or entangled in the mechanical parts of the wheelchair. If the hoses need to be shortened or lengthened for your particular application, contact Tridien Customer Service at 800-474-4225 for instructions.

### 3.2.4 Electronic Controller -

The MOBILE AIR CHAIR controller has been designed to attach to a wheelchair for mobile operation. To attach, follow the directions below:

1. Place the MOBILE AIR CHAIR controller into the case and secure the Velcro flap.
2. Position case on the back of the wheelchair as pictured in **Diagram 1** below.
3. Attach the side straps around the wheelchair handles and secure using the slide buckles on the straps.
4. Attach and secure the bottom strap to the wheelchair to prevent the controller from swinging during wheelchair operation.
5. Connect both hoses from the MOBILE AIR CHAIR cushion to the two (2) ports on the left side of the electronic controller. Make sure each hose is securely attached by pushing the connector in until a “click” is heard.

**CAUTION!** Make sure that the strap placement does not interfere with the free movement and/or operation of the wheelchair.



**Diagram 1**

## 4.0 OPERATION –

### 4.1 Functions and Settings:

#### Basic Features –

- Battery Switch** The Battery Switch is located next to the electrical cord on the bottom left side of the unit. It is used to disconnect the battery during storage only (See Section 4.4.5).
- On/Off** This key turns the unit ON or OFF during operation. To operate, this key must be pressed and held for two (2) seconds.
- Therapy** This key selects the ALTERNATING PRESSURE RELIEF mode or AIR FLOATATION mode.
- Increase/Decrease Arrows** The INCREASE and DECREASE arrow keys are used to adjust patient data, pressure settings and various advance features.
- Light** This key activates the backlight to illuminate the display. The backlight shuts off automatically after 20 seconds to conserve power.
- Set** The SET key allows access to the **Adjust Patient Weight Screen**. This screen is used to enter the patient's weight. The system uses this data to automatically adjust pressures for the patient weight entered. If desired, pressures may be manually adjusted to meet individual patient needs using the ARROW keys.

#### Advanced Features & Key Combinations -

Pressing and holding the SET key in combination with other keys allows access to advanced features:

- Light** Repeatedly pressing the LIGHT key while holding down the SET key scrolls through the following features:
- **Crossover:** This is the percentage of final pressure that must be in the high-pressure section before the low-pressure section will vent. *Any change will affect the transition between cycles and should only be adjusted by advanced users.*

- **Cycle Time:** This is the time between transitions, i.e., inflated and deflated. It has been set for 3 minutes at the factory and can be adjusted from 2-4 minutes
  - **Patient Weight:** See “**Set**” in the Basic Features section above
- After accessing an advanced feature, changes can be made by using the INCREASE and DECREASE ARROW keys. Press the SET key when finished.

### **Advanced Features & Key Combinations (Continued) –**

**Increase/Decrease** Pressing the ARROW keys while holding down the SET key locks and unlocks the keypad:

- **Lock:** Press the DECREASE key to lock keypad and prevent further input.
- **Unlock:** Press the INCREASE key to unlock the keypad. The system defaults to “UNLOCK” upon power-up.

## **4.2 Electronic Controller Operation:**

### **1. ACTIVATING THE SYSTEM.**

#### ***Operation With Battery***

- ◆ Press battery switch to the “Operate/Charge” position, the controller will “wake up” in about two seconds automatically. If controller does not “wake up” press and hold the ON/OFF key.

#### ***Operation With Power Cord***

- ◆ Press battery switch to the “Operate/Charge” position, attach power cord and plug in. This will activate the system automatically; there is no need to press the ON/OFF key.

### **2. TURNING SYSTEM OFF.**

#### ***Operation With Battery***

- ◆ Press and hold the ON/OFF key. The controller will shut down in about two seconds.

#### ***Operation With Power Cord***

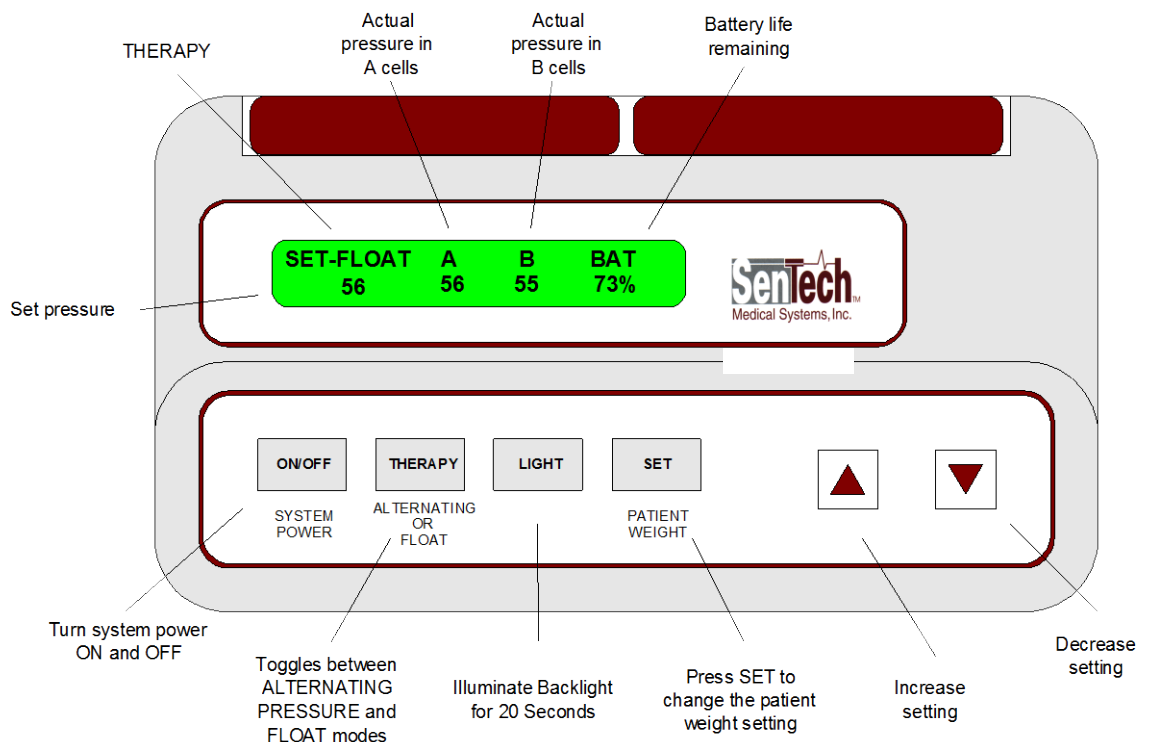
- ◆ Press and hold the ON/OFF key. Display will read “Charging Battery”.

**NOTE!** When system is turned off while plugged in, charge mode will automatically activate.

3. Press the SET key that is located on the top control panel (See **Diagram 2**). Using the INCREASE and DECREASE ARROW keys, select the appropriate patient weight. Weight is adjusted in five (5) pound increments. Round the patient weight up to the nearest five (5) pound increment.
4. Press SET again to store the new weight setting and adjust all set pressures. The pressure for the cushion is now automatically set for that patient.

**NOTE!** An automatic update of the set pressures will occur only if the patient's weight has been changed.

5. Select therapy desired from Alternating Pressure (AP) or Air Floatation (FLOAT) by pressing the THERAPY key on the control panel.



### 4.3 Low Pressure Alarm –

The Mobile Air Chair controller has been designed with a Low Pressure Alarm that will alert the user if the system fails to reach pressure for an extended period of time. If this occurs, the “Alarm” will appear in the upper left-hand corner of the display and an audible alarm will sound. See section 6.0 Troubleshooting Guide.

#### 4.4 Battery Operation –

**CAUTION!** Charging battery at temperatures less than 50 °F, or greater than 95°F, may permanently damage the battery.

**4.4.1 Battery Monitor** – During normal operation the remaining battery charge will be displayed as a percentage (%) of the full charge.

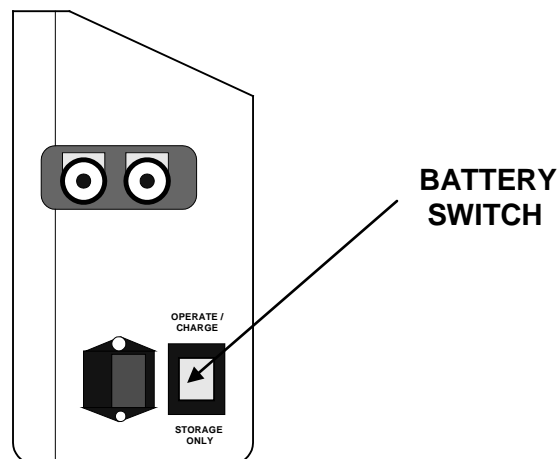
**4.4.2 Alarms – Low-Battery:** The battery monitor system will display “Low” when the battery reaches 10% of its capacity and an audio alarm will sound once every minute. When the battery reaches 5% of its capacity, the alarm will sound every other second, until battery charger is activated. **Battery-Fail:** In the event of a battery failure, e.g., battery shorted, the battery charger will be disabled and the display will indicate, “Fail”. If this should occur contact Tridien Medical for assistance.

**4.4.3 Auto-Shutdown** – The system automatically shuts down when the battery reaches 0% of its useful capacity. This is done to protect the battery from serious damage.

**4.4.4 Battery Charger** - The MOBILE AIR CHAIR controller has a “built-in” battery charger. This charger is activated whenever the power cord is attached and plugged in AND the battery switch is in the “Operate/Charge” position. The MOBILE AIR CHAIR controller has been designed to accommodate any line voltage between 110-240 VAC and any cycle from 50-60Hz.

**4.4.5 Battery Switch** - The switch located on the left side of the MOBILE AIR CHAIR controller operates the battery. **This is not an ON/OFF switch.**

To disconnect the battery for storage, press the battery switch to the “STORAGE ONLY” position (See **Diagram 3**). The



**Diagram 3**

switch should only be in this position when the system is being stored for an extended period of time.

#### **4.4.6 Charging The Battery –**

**IMPORTANT!** Charging the battery DAILY when NOT in use is strongly recommended to ensure full battery life. Always fully charge the battery between uses and before storage

- 1) Press battery switch to the “OPERATE / CHARGE” position.
- 2) Attach power cord to the controller and plug in. The controller will turn ON automatically. Wait for the “Bat Chrg” to appear on the right side of the display panel.
- 3) Press and hold the ON/OFF button on the control panel (See **Diagram 2**). The display will now indicate “Charging Battery”.
- 4) When the battery is fully charged, the display will indicate “System Standby”.
- 5) When ready for use, unplug and detach power cord. Press the ON/OFF key to turn controller on.
- 6) The system may be used while charging the battery. Charging the battery when NOT in use will still be needed DAILY.

**NOTE!** The amount of time between battery charges can be affected by the cycle time and therapy mode selected. Battery life will be extended if the battery is not fully discharged during use.

## 5.0 MAINTENANCE AND CLEANING –

### 5.1 Electrical Controller:

The MOBILE AIR CHAIR electrical controller is easy to maintain. The filter should be dusted or vacuumed twice a year. **DO NOT attempt to remove filter or filter cover.** The exterior of the controller should be periodically wiped down with disinfectant and the electrical cord checked for electrical hazards.

To ensure optimal performance of your MOBILE AIR CHAIR, calibration should be verified every 12 months. Contact Tridien Customer Service for calibration information.

**CAUTION!** DO NOT spray disinfectant directly on the electrical controller, or immerse the controller in any type of liquid. This could result in a severe electrical hazard.

### 5.2 Coverlet:

**CAUTION!** Heat will severely damage the material. DO NOT dry the coverlet using the “heat” cycle. Air dry, or use a “non-heat” dry cycle, e.g., air fluff.

#### 5.2.1 Washing and Disinfecting

*If there are visible signs of body fluids and/or substances present, coverlets should be washed between patients. Coverlets can be machine-washed using chlorine bleach (50-150ppm) or an *intermediate level* disinfectant, such as ProTech<sup>1</sup>. Bleach and disinfectant should be used according to the manufacturer’s instructions. To determine the amount of bleach or disinfectant to use, determine the amount of water in the washer and then follow the *manufacturer’s dilution instructions*. Soak the coverlet in the disinfectant or bleach during the wash cycle. Rinse thoroughly in clean water and dry before use.*

**NOTE!** 2.5 ounces of bleach per 10 gallons of water is approximately 100ppm of available chlorine.

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<sup>1</sup> ProTech<sup>®</sup> is a tuberculocidal disinfectant cleaner and a registered trademark of Central Solutions, Inc.

### 5.2.2 Washing Alternative

*If there are no visible signs of body fluids and/or substances present, the coverlet can be sanitized between patients. To sanitize the coverlet:*

1. Apply chlorine bleach, or an intermediate level disinfectant at the appropriate dilution (See **Section 5.2.1**) to the upper surface of the coverlet. Bleach/disinfectant may be applied either by spraying or by hand application.
2. Ensure surface is completely covered with the bleach/disinfectant.
3. Allow bleach/disinfectant to remain in contact with the surface according to the manufacturer's instructions.
4. Remove bleach/disinfectant and rinse.
5. Allow to air dry before use.

**5.3 Overlay:** Wipe air cell assembly down by hand using an approved disinfectant. Allow disinfectant to soak in, rinse thoroughly and air dry. **DO NOT MACHINE WASH OR DRY!**

**5.4 Foam Wedge:** The foam wedge should not require cleaning. If it becomes soiled, this component should be replaced.

**5.5 Controller Case:** Case is made of a polyester-vinyl fabric and can be machine-washed with detergent. Dry using low heat or allow to air-dry.

## 6.0 TROUBLESHOOTING GUIDE -

Problem	Cause	Solution
1. No power to the unit.	Battery not connected or not charged.	<p>a) Connect the battery (See Section 4.4.6)</p> <p>b) Press battery switch to "Operate/Charge" position, plug in and turn controller OFF to charge battery.</p> <p>If there is still no power, contact Tridien Medical for assistance at 1-800-474-4225.</p>
2. Low Pressure Alarm is on.	The alarm is triggered when a cell(s) fails to reach its programmed pressure after an extended period of time (~20min.) This is usually an indication of an air leak somewhere in the system.	<p>a) Be sure all hoses are properly connected to the controller.</p> <p>b) Check all hoses along the inside of the cushion. Each hose should be tightly connected.</p> <p>c) Check each air cell to ensure there are no leaks.</p> <p>d) After the leak has been stopped, the system can be reset by turning the controller off and then on again.</p>
3. Patient is sinking or bottoming out and the alarm light is not on.	Although some sinking is normal for an air cushion, the pressure may be set too low for that patient's weight distribution.	a) Increase set pressure. An increase of 5 to 10 mm/Hg is often sufficient. Wait at least one full cycle before determining if the pressure increase is adequate.
4. Display readings appear abnormally high.	May be caused by the hoses having a bend which causes an uneven delivery of air.	Check hoses to eliminate any sharp bends or folds.

## 7.0 PRODUCT SPECIFICATIONS –

Product Specifications for your MOBILE AIR CHAIR are presented below:

### MOBILE AIR CHAIR Electronic Controller –

#### Physical Dimensions:

Height (Inches)	8
Width (Inches)	8
	9, including air ports
Depth (Inches)	4
Weight (Pounds)	7.5

#### Electrical Parameters:

Power Requirements: (Voltage/Vac)	100-240
(Cycle/Hz)	50-60
Fuse	1A
Maximum Current	< 0.5A

#### Operating Parameters:

Weight Range (Pounds)	50-300
Cycle Time (Minutes)	2-4
Custom Pressure Settings (mmHg)	25-80 (Float Mode)
	40-80 (A.P. Mode)
Time Between Battery Charges (Hours)	Up to 14 (Float Mode)

### MOBILE AIR CHAIR Cushion–

#### Physical Dimensions (Inches)

Length	18
Width	18
Height	2.5

## 8.0 WARRANTY INFORMATION –

### LIMITED WARRANTY

Tridien Medical (“Tridien”) warrants each of its products to perform in accordance with established specifications for the following time periods, starting from date the product was shipped from the Tridien facility.

#### **Stage IV & Millennium Systems**

**Compressor Pump: 3 Years**

**Electronic Controller: 2 Years**

**Soft Goods: 1 Year**

#### **Primary Care, Sentry, Express & Air Chair Systems**

**Compressor Pump: 2 Years**

**Electronic Controller: 1 Year**

**Soft Goods: 1 Year**

**Battery: 6 Months**

**Recliner Chair: 2 Years**

During the warranty period, Tridien will repair or replace at no charge any products that are not performing in accordance with established specifications, unless the problem/failure is due to (1) customer damage, negligence and/or misuse or (2) unauthorized repairs. Items not covered under warranty include, but are not limited to: stains, punctures, cuts, damages to electrical cords, rips or tears, dents and/or lost/missing parts.

All products returned for warranty repairs must be assigned a return authorization number, prior to return. Returns should include information describing the problem and/or requested repair and be sent to Tridien by prepaid transportation. Tridien will return the repaired/replaced product at no charge. Warranty repairs do not extend the length of the warranty period. During the warranty period, Tridien will provide one Bio-Med test at no charge, excluding shipping/handling.

Neither Tridien, its officers, directors, employees or agents shall be liable for consequential or other damages, including but not limited to personal injury, loss, or any other expense, directly or indirectly arising from the use of its products. The sole remedy for breach of the limited warranty granted herein shall be repair or replacement of the Tridien products.

All product specifications are subject to change without notice.

## 9.0 PRODUCT RETURN –

The MOBILE AIR CHAIR system has been designed to provide you with years of trouble-free service. However, in the event that the product needs to be returned for any reason, such as calibration, upgrades, testing or repair, the following return procedure must be followed. Failure to follow this procedure may result in unnecessary delays.

### **Return Procedure -**

Before returning a product to Tridien:

1. Contact Customer Service at **800-474-4225** or **954-340-0500** and obtain a **Return Material Authorization (RMA)** number.
2. Package the product in its *approved* packaging.

**IMPORTANT!** Failure to use the *approved* packaging when returning a product may result in shipping damage and could void the warranty.

3. Reference the assigned RMA number on the shipping documents and send to the following address:

***Tridien Medical***

4200 NW 120th Avenue

Coral Springs, FL 33065

**Attention:** Customer Service / RMA <Number>

## Notes

***Tridien Medical***  
4200 NW 120th Avenue  
Coral Springs, FL 33065

Phone: 954-340-0500  
FAX: 954-340-0511  
Web Site: [www.tridien.com](http://www.tridien.com)

*AIR CHAIR is a registered trademark of  
Tridien Medical  
Coral Springs, FL*

*Patents: 5,926,884 & 5,509,155*