

# **Med Aire Plus 8" Alternating Pressure and Low Air Loss Mattress Replacement System**

**OPERATOR'S MANUAL**  
**ITEM #14029 (control unit 14029XP)**

# **Med Aire Plus 8" Alternating Pressure and Low Air Loss Mattress Replacement System with Defined Perimeter**

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**ITEM #14029DP (control unit 14029XP)**



## TABLE OF CONTENTS

|                                                 |    |
|-------------------------------------------------|----|
| TABLE OF CONTENTS .....                         | 2  |
| STATEMENTS & SYMBOLS .....                      | 3  |
| Note, Caution, Warning & Danger statements..... | 3  |
| Symbols .....                                   | 3  |
| INTRODUCTION .....                              | 4  |
| General .....                                   | 4  |
| Intended Use .....                              | 4  |
| Contraindication .....                          | 4  |
| PACKAGE CONTENT .....                           | 5  |
| Control unit.....                               | 5  |
| Mattress .....                                  | 5  |
| Cover Sheet .....                               | 5  |
| Manual .....                                    | 5  |
| PRODUCT FUNCTIONS.....                          | 6  |
| Control unit.....                               | 6  |
| INSTALLATION .....                              | 8  |
| GROUNDING INSTRUCTIONS .....                    | 9  |
| OPERATION .....                                 | 10 |
| General .....                                   | 10 |
| CPR function .....                              | 12 |
| CLEANING .....                                  | 13 |
| Control unit.....                               | 13 |
| Mattress .....                                  | 14 |
| MAINTENANCE AND STORAGE .....                   | 15 |
| General .....                                   | 15 |
| Low pressure .....                              | 15 |
| TROUBLESHOOTING .....                           | 16 |
| SPECIFICATIONS .....                            | 17 |
| System .....                                    | 17 |
| WARRANTY .....                                  | 18 |

### NOTE, CAUTION, WARNING & DANGER STATEMENTS

**A) NOTE!!:**

Tips or information users should be aware of.

**B) CAUTION:**

Correct operating or maintenance procedures to be carefully followed to prevent damage to or destruction of the equipment or other properties.

**C) WARNING/DANGER:**

Attention has to be paid to a potential danger that requires correct procedures or practices in order to prevent personal injury.

**D) SYMBOLS:**

Symbols on the printed label on the outside package box are as below:



Grounding Terminal



Type BF Equipment



Always read the operating instructions before use.

## INTRODUCTION

This manual should be used for the initial set up of the system and for reference purposes.

### GENERAL

Drive Support Surfaces are high quality and affordable air replacement mattress systems. Specifically designed to redistribute pressure, these systems offer a solution for the prevention and treatment of pressure ulcers and offers an optimal solution for pressure redistribution and microclimate control.

The 14029 series has been tested and certified for the following standards:

UL 60601-1  
CAN/CSA C22.2 No. 601.1

### INTENDED USE

Drive Support Surfaces are designed and constructed to reduce the incidence of pressure ulcers while optimizing patient comfort. It is also indicated for:

- Individual home care and long-term care settings
- Pain management as prescribed by a physician.

### CONTRAINDICATION

Patient conditions for which the application of pressure redistributing therapy on an alternation system is contraindicated are as follows:

- Cervical or skeletal traction
- Unstable spinal cord injuries

## PACKAGE CONTENT

Check your package contents. If any of the following items should be missing or damaged, please contact your local dealer or service center for immediate replacement.

### Control unit

Please be sure you have received the identical control unit to the one purchased. Control unit functions vary from model to model. This manual is for use with control unit 14029XP.



### MATTRESS

Item #14029

The pressure redistribution mattress provided includes cell-on-cell design constructed of a base and air inflation cells. The air cells are 8" in height with a static 4" air cell base.



Item #14029DP

The pressure redistribution mattress provided includes cell-on-cell design constructed of a base and air inflation cells. The air cells are 8" in height with a static 4" air cell base. 10" deep static perimeters surround the length of the mattress.



### COVER SHEET

The cover provided is a 4 way stretch, low shear, vapor permeable, quilted cover easily zippered for removal and cleaning.

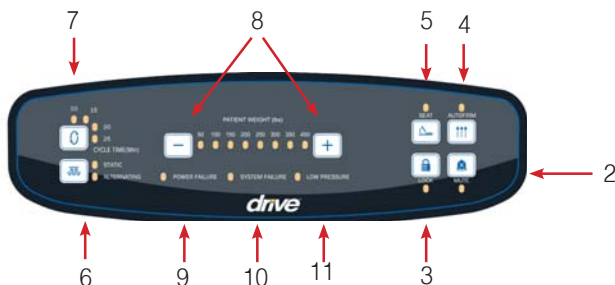
### MANUAL

Please be sure to read the manual in its entirety before using the product.

## PRODUCT FUNCTIONS

### Control unit

Below are the functions of the 14029XP Control unit to be used with your Pressure Redistribution Mattress.



1. Power ON/OFF Switch
2. MUTE Button
3. PANEL LOCK Button
4. AUTOFIRM Button
5. SEAT Button
6. STATIC/ALTERNATING Button
7. CYCLE TIME Button
8. WEIGHT SETTING SELECTION Keys
9. POWER FAILURE indicator
10. SYSTEM FAILURE indicator
11. LOW PRESSURE indicator



### Power Switch (1)

The POWER switch is at the lower right side of the control unit. Turning the POWER switch ON/OFF will start/stop the control unit. The switch lights up when the power is ON, and extinguishes when the power is OFF.

### MUTE Button (2)

The audible/visible alarm turns on either when the pressure is low or the system fails to alternate. Press the Mute button to mute the audible alarm, and the MUTE indicator will light up (amber). The alarm indicator will continue flickering. Re-press the Mute button to re-activate the audible alarm and to extinguish the MUTE indicator.

### PANEL LOCK Button (3)

Press the PANEL LOCK button and hold it for 3 seconds to LOCK or UNLOCK the panel. The PANEL LOCK indicator lights up (amber) when the panel is locked. The panel will automatically lock up if no operations are used for over 30 seconds.

#### **AUTOFIRM Button (4)**

Press the AUTOFIRM button to set AUTOFIRM mode to quickly inflate the air mattress to the maximum pressure which facilitates nursing and caring. The AUTOFIRM indicator lights up (amber) when the system is in AUTOFIRM mode. The system will automatically return to the previous mode 30 minutes after the AUTOFIRM mode is in operation. It is also possible to cancel AUTOFIRM mode by pressing the AUTOFIRM button.

#### **SEAT Button (5)**

Press the SEAT button to set SEAT (FOWLER) mode to inflate all cells and increase the pressure by 10mmHg. The SEAT indicator lights up (amber) when the system is in SEAT (FOWLER) mode. To cancel SEAT (FOWLER) mode, press the SEAT button.

#### **STATIC/ALTERNATING Button (6)**

Press the STATIC/ALTERNATING button to operate the air mattress in STATIC mode or ALTERNATING PRESSURE mode. The amber STATIC indicator (or the green ALTERNATING indicator) turns on to indicate the corresponding operation mode.

#### **CYCLE TIME Button (7)**

The CYCLE TIME button can be used to select the appropriate cycle time of the inflation modes. There are 4 different cycle times available: 10, 15, 20 and 25 minutes.

#### **WEIGHT SETTING Buttons (+) and (-) (8)**

The WEIGHT SETTING Buttons (+) and (-) can be used to adjust the pressure of the inflated cells based on the patient's weight. As the weight setting increases, the pressure level indicator lights up (green) with each added level of pressure. Eight pressure levels are available and indicated by increasing green light indicator.

**NOTE!!** Weight capacities vary between models. Please refer to your item number below for corresponding weight capacity.

| Item #  | Weight Capacity |
|---------|-----------------|
| 14029   | 450 lbs         |
| 14029DP | 450 lbs         |

#### **POWER FAILURE indicator (9)**

This indicator light (red) flickers when there is no power input to control unit.

#### **SYSTEM FAILURE indicator (10)**

This indicator light (red) flickers when the system fails to alternate.

#### **LOW PRESSURE indicator (11)**

This indicator light (red) flickers when the pressure is below the pre-defined level.

## INSTALLATION

Place the mattress flat on the bed frame. The inflation tube should be towards the foot end so that it can be connected to the inflation nozzles on the control unit. See figure below for reference.

CPR Strap at Head End



Control unit at Foot End

### Step 2

Cover the mattress with a cotton sheet.

### Step 3

Hang the control unit over the frame or at the foot board of the bed. Make sure the control unit is secured.

### Step 4

Connect the inflation tubes from the mattress to the control unit's inflating nozzles. Make sure they are properly attached.

#### NOTE!

Make sure the air hoses are not kinked or tucked under the mattress. Also check if the CPR valve is properly attached. The CPR strap is located at the head end right-hand side of the mattress as you are lying down. See photo above.

### Step 5

Plug the power cord into an electrical outlet with grounded AC power.

#### NOTE!

This product should be grounded. The power cord has a grounding wire with a grounding pin. This three-pronged plug must be plugged properly into an outlet and grounded as shown in the figure in the Grounding Instructions section. See page 9 for reference.

### Step 6

Turn on the power by pressing the power switch at the right side of the control unit. Proceed to the OPERATION section.

## GROUNDING INSTRUCTIONS

This product should be grounded. In the event of a short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current. This product is equipped with a cord that contains a grounding wire and with a grounding plug.

### **DANGER - Improper use of the grounding plug can result in the risk of electric shock.**

When repair or replacement of the cord or plug is necessary, be sure not to connect the grounding to either flat blade terminal.

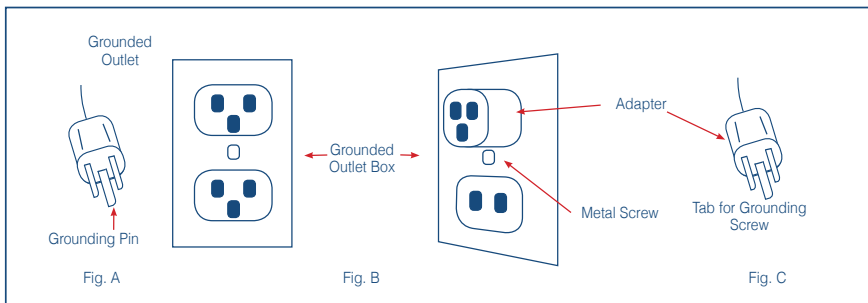
#### **NOTE!!**

The grounding wire is the green wire (with or without yellow stripe).

Consult a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the product is properly grounded.

The grounding plug looks like the plug in figure A below. A temporary adapter that looks like the adapter illustrated in figure B and C may be used to connect the grounding plug to a 2-pole outlet as in figure B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet (figure A) can be installed by a qualified electrician. The green colored rigid ear, lug, tab or the like extending from the adapter must be connected to a permanent ground such as properly grounded outlet box cover.

If it is necessary to use an extension cord, use only a 3-wire extension cord that has a 3-blade grounding plug and a 3-slot receptacle that will accept the plug on the product.



## OPERATION



Always read the operating instructions before use.

### GENERAL

This product is designed to provide maximum comfort and therapeutic levels of pressure redistribution. Please be sure to review this manual for appropriate use and optimal benefit.

### Product Use:

DO NOT use any other control unit with this mattress system than the one provided by Drive. Control units with pressure capacities over 120mmHg may be dangerous and cause cell puncture.

DO NOT change any component by yourself. If there is need for replacement or repair, always contact your authorized Drive dealer or service center.

### Patient Use:

When the NORMAL PRESSURE indicator lights up (green), the pressure in the mattress has reached the pre-defined level, and the patient can then be placed on the mattress.

Cover the mattress with a cotton sheet to avoid direct skin contact and improve the patient's comfort level.

An even surface will make the transfer or reposition of the patient easier. STATIC mode provides an even support surface for the patient.

The STATIC mode and SEAT (FOWLER) mode also prevent the patient from bottoming out when the patient is in a seated position. See the figure at right.



### 14029XP

- **Turn the power ON**

A BEEP sound will begin the operation. The indicator of the power switch will light up (green), and the control unit will begin to pump air into the mattress. The LOW PRESSURE indicator (red) will flicker as the inflation of the mattress begins.

**NOTE!!**

The audible alarm will not be heard when inflating the mattress for the first time.

- **Automatic STATIC mode**

The control unit will automatically enter STATIC mode when it is turned on. Once the pressure reaches 50 mmHg, the unit will return to the previously selected mode, if applicable.

**NOTE!!**

If the pressure does not reach 50 mmHg 40 minutes after the control unit is turned on, the audible alarm will start to beep, and the LOW PRESSURE indicator will continue flickering.

- **Mode selection**

Press the STATIC/ALTERNATING button to change the function mode to ALTERNATING PRESSURE or STATIC as desired.

**NOTE!!**

It is recommended to always keep the control unit in the ALTERNATING PRESSURE mode when the patient is in a lying position for more efficient pressure ulcer prevention and treatment.

**NOTE!!**

The STATIC mode provides an even support surface that will make the patient transfer or reposition easier. The STATIC mode or SEAT (FOWLER) mode also prevents the patient from bottoming out when in the seated position.

- **Weight Setting Selection**

The pressure of the mattress can be adjusted by choosing the patients' corresponding weight setting using the weight setting buttons (+) and (-). Use the weight setting buttons to select the desired level. Pressure levels will range from 10 to 50 mmHg.

**NOTE!!**

Pressing the [+] key will bring the pressure one level higher, and the [-] key will bring the pressure one level lower. It is recommended to follow the HAND CHECK procedure as demonstrated in page 10 to decide the appropriate pressure level.

- **Automatic pressure control**

During normal operation, 14029XP control unit will monitor pressure changes and keep it constant at the set level. When the pressure is below the set pressure level, the control unit will automatically start

## OPERATION

to inflate the mattress. The control unit will stop when the set pressure level is reached.

### **NOTE!!**

If the pressure is consistently low, the audible alarm will beep and its indicator will light up to attract attention. If there should be obvious leakage, for example caused by loose connection of tubes, the audible/visible alarm will be activated.

- **For nursing and caring convenience**

Press the AUTOFIRM button to automatically inflate the mattress to the maximum level (above 50 mmHg) for about 30 minutes. After 30 minutes, the control unit will return to the previously set weight setting and pressure level.

- **Placing the patient in the seated (Fowler) position**

Press the SEAT button for support during the seated position. Air pressure will increase by 10mmHg to prevent the patient from bottoming out when in a seated position.

- **To silence the alarm**

If the pressure drops below the pre-defined level, the LOW PRESSURE indicator will light up accompanied by a BEEP alarm tone. If the control unit fails to alternate in the ALTERNATING PRESSURE mode, the SYSTEM FAILURE indicator will light up accompanied by a BEEP alarm tone. If the control unit loses power input, the POWER FAILURE indicator will light up accompanied by a BEEP alarm tone. For either scenario, pressing the MUTE button will silence the alarm, but the indicator will continue flickering. Repressing the MUTE button will reactivate the audible alarm.

### **CPR function**

When there is an emergency to perform CPR on the patient, pull the CPR strap to release the air immediately from the mattress.

The CPR strap is located at the head end right-hand side of the mattress as you are lying down.

In this section, the procedures to clean and decontaminate the control unit will be described. It is important to follow these procedures before using the system.

It is recommended to clean the cover and mattress system once a week to reduce contaminants.

### Control unit

It is important to follow the cleaning procedures before using the system.

Wipe down the Control Unit with a damp cloth pre-soaked with a mild detergent. Avoid contact with dust and proximity to dusty areas. Make sure that any cleaning agents you use will not harm or corrode the plastic casing on the Control Unit. If your doctor or medical facilities have other special cleaning instruction, please follow the professional instruction.



**CAUTION:** Do not immerse or soak Control Unit.



**WARNING:** Do not remove the housing of the Control Unit to avoid electrical shock. All disassembly or repair should be done by professional technicians.



**CAUTION:** The Control Unit does not need oil lubrication, please do not disassemble the system.

# CLEANING

## Mattress/ Cover

|                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cover Material:</b><br>• Polyfiber/ Polyurethane Stretch |      |
|-------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Wipe down the mattress unit with a damp cloth pre-soaked with warm water containing a mild detergent. Approved intermediate level disinfectants may be used according to the cover material. Please refer to the chart below for recommended disinfectants. The mattress top cover can be completely removed for laundry with water temperature up to 95°F; however, it is recommended that the user still check with local policy to determine the time/temperature ratio required to achieve thermal disinfection. After cleaning, please avoid dust and proximity to dusty areas. All parts should be air dried thoroughly before use.

|                 | Polyfiber/Polyurethane Stretch Cover | Vinyl Cover                        |
|-----------------|--------------------------------------|------------------------------------|
| Recommended     | Quaternary                           | Phenolics                          |
| Acceptable      | Chlorine Bleach (1:10)               | Quaternary, Chlorine Bleach (1:10) |
| Not Recommended | Phenolics                            | Quat/Isopropyl                     |

**CAUTION:** After cleaning, dry the mattress without direct exposure of sunlight.

### General

- Check the power cord and plug to see if there any signs of wear or damage.
- Check the mattress cover for signs of wear or damage. Make sure the mattress cover and tubes are connected together correctly.
- Plug in the control unit and check the airflow from the hose connection port. The airflow should alternate between ports every half-cycle time during alternating pressure mode.
- Check the air hoses to see if there are kinks or breaks. For replacement, please contact your local agent or dealer.
- Make sure the mattress tube is well connected.
- Check the control unit and make sure both power and power indicator are off when the switch is turned off.

### Low pressure

Examine if there is air leakage between the control unit and the mattress connections or from the air mattress tubes.

- Check connectors between the air mattress and control unit. If there is any disconnection, please reconnect it.
- Check the CPR Valves. Be sure their outlets are sealed.
- Check the air-connecting tubes. Be sure no single cell is broken.
- Set the unit to the highest weight setting. Keep the tubes fully inflated and inspect for air leakage from cells. Make sure that no leakage occurs. If any leakage occurs, please contact your local agent or dealer.

### STORAGE

- Lay the mattress out flat and upside down.
- Roll from the foot end towards the head end. The foot-end strap can then be stretched around the rolled mattress to prevent unrolling.
- Do not fold, crease or stack the mattress.
- Follow your local regulations for proper disposal of the control unit.

## TROUBLESHOOTING

| PROBLEMS                               | SOLUTIONS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The control unit doesn't work          | <ol style="list-style-type: none"> <li>1. Check if the plug is inserted firmly into the outlet.</li> <li>2. Turn on the power switch again.</li> </ol> <ul style="list-style-type: none"> <li>• If the power indicator is ON and the control unit still doesn't work, contact your local dealer immediately.</li> <li>• If the power indicator is OFF, there may be a faulty outlet. Try to connect the power cord to another outlet. If the power indicator is still OFF, contact a qualified electrician for main power check.</li> </ul> |
| Incomplete inflation<br>(Low Pressure) | <ol style="list-style-type: none"> <li>1. For a quick check, adjust the pressure to Firm.</li> <li>2. Check to see if the tubes connected to the control unit are twisted or there is any leakage occurring.</li> </ol> <ul style="list-style-type: none"> <li>• Always keep the tubes straight.</li> <li>• Change tubes if there is any leakage.</li> <li>• Ensure the CPR valves are closed. Ensure every single cell is not broken.</li> </ul>                                                                                           |
| Slow air flow                          | <p>A dirty filter may decrease the air flow. Wash the filter with mild detergent to keep it clean.</p> <ul style="list-style-type: none"> <li>• Check the air filter at the back of the control unit at least once a month.</li> </ul>                                                                                                                                                                                                                                                                                                      |

## SPECIFICATIONS

### SYSTEM

| ITEM                      | SPECIFICATIONS                                                                                                                                                                                                                                                                                                                     |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Classification            | Class I; IPX0; AP/APG NO; Type BF                                                                                                                                                                                                                 |
| Applied Part              | Mattress                                                                                                                                                                                                                                                                                                                           |
| Input Rating              | AC 120V 60Hz; 12W, 1A                                                                                                                                                                                                                                                                                                              |
| Fuse Rating               | 250V, 1A                                                                                                                                                                                                                                                                                                                           |
| Pressure Range            | 20 ~ 60 mmHg                                                                                                                                                                                                                                                                                                                       |
| Cycle Time                | 14029XP 10, 15, 20, 25 minutes                                                                                                                                                                                                                                                                                                     |
| Dimensions (Control unit) | 369 x 135 x 250 mm (14½" x 5" x 10")                                                                                                                                                                                                                                                                                               |
| Weight (Control unit)     | 14029XP: 3.9 kg (8 lbs)                                                                                                                                                                                                                                                                                                            |
| Environment Requirements  | Temperature: Operation 50°F~95°F (10~35°C)<br>Storage 5°F ~122°F (-15~50°C)<br>Shipping 5°F ~158°F (-15~70°C)<br>Humidity: Operation 20%~80% non-condensing<br>Storage 10%~90% non-condensing                                                                                                                                      |
| Safety Standards          |  MEDICAL EQUIPMENT<br>WITH RESPECT TO ELECTRIC SHOCK,<br>FIRE AND MECHANICAL HAZARDS ONLY<br>IN ACCORDANCE WITH UL60601-1 AND<br>CAN/CSA C22.2 NO. 606.1<br>(2015)<br>UL, c-UL (With respect to electric shock, fire and mechanical hazards only) |

\* Due to the continual development of the above products, specifications are subject to change without prior notice.

### NOTE!

The above specifications are also applicable to those areas operating with the same power supply range.

AP/APG NO indicates the device is NOT suitable for use in the presence of flammable anesthetic mixture with air or flammable anesthetic mixture with oxygen or flammable anesthetic mixture nitrous oxide. The mattress can be used in the presence of oxygen administered by nasal cannula or face mask.

Type BF symbol indicates the degree of protection against electric shock.

Instructions or reference information for repair of equipment parts are provided by the manufacturer, please contact local dealer for further information.

## WARRANTY

Your Drive brand product is warranted to be free of defects in materials and workmanship for 18 months of the original consumer purchaser.

This device was built to exacting standards and carefully inspected prior to shipment. This 18 month Limited Warranty is an expression of our confidence in the materials and workmanship of our products and our assurance to the consumer of years of dependable service.

This warranty does not cover device failure due to owner misuse or negligence, or normal wear and tear. The warranty does not extend to non-durable components, such as rubber accessories, casters, and grips, which are subject to normal wear and need periodic replacement.

If you have a question about your Drive device or this warranty, please contact an authorized Drive dealer.



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**NOTES:**



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