

# Med-Aire 8" Alternating Pressure Mattress Replacement System With Low Air Loss

OPERATOR'S MANUAL



Item # 14027

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MEDICAL DESIGN & MANUFACTURING

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# IMPORTANT SAFEGUARDS

When using electrical products, especially when children are present, basic safety precautions should always be followed, including the following

## **READ ALL INSTRUCTIONS BEFORE USING**

### **DANGER**

To reduce the risk of electrocution:

- Always unplug this product immediately after use.
- Do not use while bathing.
- Do not place or store product where it can fall or be pulled into a tub or sink.
- Do not place or drop into water or other liquids.
- Do not reach for a product that has fallen into water. Unplug immediately.

### **WARNING**

To reduce the risk of burns, electrocution, fire or injury to persons:

- A product should never be left unattended when plugged in.
- Close supervision is necessary when this product is used by, on, or near children or invalids.
- Use this product only for its intended use as described in this manual.  
Do not use attachments not recommended by the manufacturer.
- Never operate this product if it has a damaged cord or plug, if it is not working properly, if it has been dropped or damaged, or dropped into water. Return the product to a service center for examination and repair.
- Keep the cord away from heated surfaces.
- Never block the air openings of the product or place it on a soft surface, such as a bed or couch, where the air openings may be blocked. Keep the air openings free of lint, hair and the like.
- Never drop or insert any object into any opening or hose.
- Do not use outdoors or operate where aerosol (spray) products are being used.
- Connect this product to a properly grounded outlet only. See Grounding Instructions.

### **GROUNDING**

Before any connection is made, make certain that this product is connected to a protective earth conductor via the three-wire power cord; the three-blade plug should be inserted only into a socket outlet that provides a protective earth contact. Please refer to page 8 for more information.

## **SAVE THESE INSTRUCTIONS**

# STATEMENTS & SYMBOLS

*Note, caution, warning & danger statements*

## **NOTE**

Indicates some tips or some information users should be aware of.

## **CAUTION**

Indicates correct operating or maintenance procedure in order to prevent damage to or destruction of the equipment or other property.

## **WARNING/DANGER**

Calls attention to a potential danger that requires correct procedures or practices in order to prevent personal injury.

## **Others**

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



Grounding Terminal



Always read the operating instructions before use.

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

## **GENERAL**

The 14027 series is a high quality and affordable air support surface suitable for medium and high-risk pressure ulcer treatment. It has been specifically designed for prevention of bedsores and offers an affordable solution to 24-hour pressure area care.

The 14027 series has been tested and certified for the following standards:

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

## **INTENDED USE**

The 14027 series is intended to reduce the incidence of pressure ulcers while optimizing patient comfort. It also provides the following:

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

## **CONTRAINDICATION**

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

- Cervical or skeletal traction
- Unstable spinal cord injuries

# PACKAGE CONTENT

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

## **PUMP**

Make sure the type of pump is identical to which you purchased. Functionalities vary from model to model.



## **MATTRESS**

Cell type: The mattress comes with a zippered base. The air cells are 8" in height.



## **COVER SHEET**

Mattress cover is quilted and zippered so that it can be zippered to the base.



## **MANUAL**

Always read this manual before using this product.

## PUMP

The functions of the pump for the 14027 series are described below.

### Power Switch (1)

The switch is at the right side of the pump.  
Turn ON/OFF the power, the pump will start/stop operation.

### Pressure-adjust Knob (2)

Turn the soft/firm knob to set a comfortable pressure level.

### Normal Pressure Indicator (3)

A visible indicator (green) tells the pressure has reached a preset or user-defined level.

### Low Pressure Indicator (4)

A visible indicator (yellow or red) warns the pressure is below a preset or user-defined level.

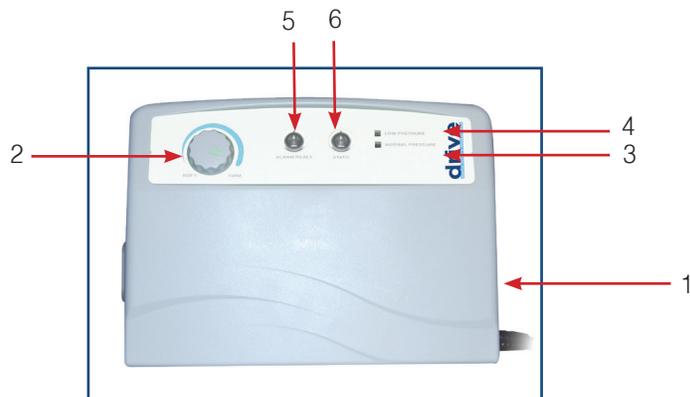
### Alarm Reset (5)

The audible/visible alarm turns on when the pressure is low.  
To mute the audible alarm, press the reset button. The visible alarm indicator will flash.  
Re-press the reset button to reactivate the alarm.

### Static/Alternating control (6)

Press to set the air mattress either in static mode or alternating mode.

1. Power Switch
2. Pressure-adjust Knob
3. Normal Pressure Indicator
4. Low Pressure Indicator
5. Alarm Reset
6. Static/Alternating Control



## Mattress

The 14027 series comes with cell type mattress of different materials (Nylon/PVC or PU), provided optionally with the pump. Please refer to the Specifications section for details.

# INSTALLATION

## **Step 1**

Place the mattress flatly 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 pump.

## **Step 2**

You may place a thin cotton sheet over the quilted mattress top cover.

## **Step 3**

Hang the pump over the frame or board at the foot end of the bed using the “hangers” on the back of the pump.

Make sure the pump is secured.

## **Step 4**

Connect the inflation tubes from the mattress to the pump'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 to ensure the CPR valve is properly attached.

## **Step 5**

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

This product should be grounded!

The power cord has a grounding wire with a grounding pin.

This three-wire plug must be plugged properly into an outlet and grounded as shown in the figure in the Grounding Instructions section.

## **NOTE!**

Before inserting the plug into the outlet, make sure the voltage is compatible. Also make sure this product is well grounded.

## **Step 6**

Turn on the power by pressing the power switch at the right side of the pump. Proceed to the Operation section.

## **Step 7**

Make sure to disconnect the pump by unplugging the power cord when it is not in use.

# GROUNDING INSTRUCTIONS

This product should be grounded. In the event of an electrical 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 with a grounding plug.

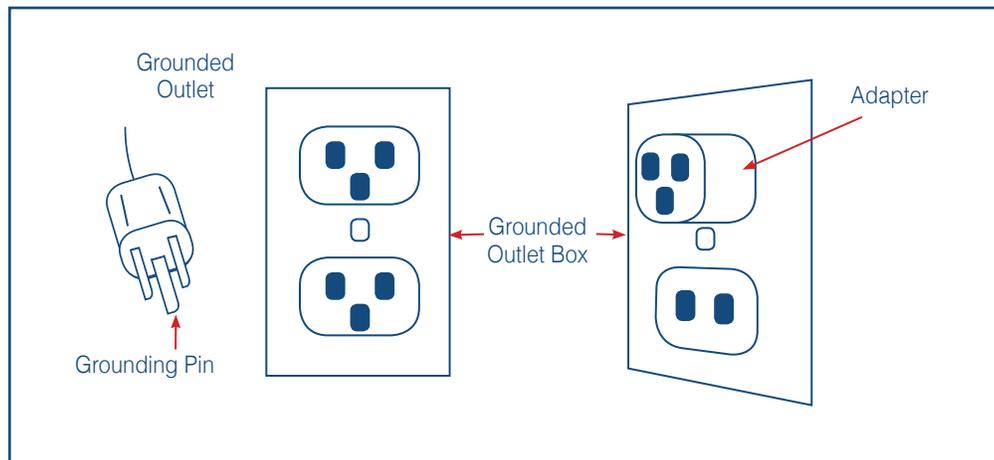
**DANGER – Improper use of the grounding plug can result in a risk of electric shock.**

If repair or replacement of the cord or plug is necessary, do not connect the grounding to either flat blade terminal. The wire with insulation having an outer surface that is green with or without yellow stripe is the grounding wire. Before attempting any repair or replacement, contact your authorized Drive dealer.

Check with 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.

This product has a grounding plug that looks like the plug illustrated in figure A below. A temporary adapter, which looks like the adapter illustrated in figure B and C, may be used to connect this plug to a 2-pole receptacle as shown in figure B if a properly grounded outlet is not available. The temporary adapter should be used only until 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. Whenever the adapter is used, it must be held in place by the screw.

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



# OPERATION



Always read the operating instructions before use.

## GENERAL

This product is designed to provide maximum comfort to patients. Make sure that you operate this product in a proper way to optimizing its value. Here we provide some general information you should be aware of.

### For products:

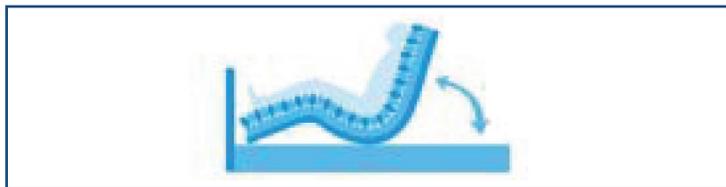
DO NOT use another pump with different specifications unless instructed to do so by your authorized Drive dealer. It is dangerous to use a pump with pressure capacity greater than 120 mmHg. This may result in cell damage.

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

### For patients:

When the Normal Pressure indicator (green) comes on to indicate that the pressure has been adjusted to a desired level of firmness, the patient can then lie on the mattress.

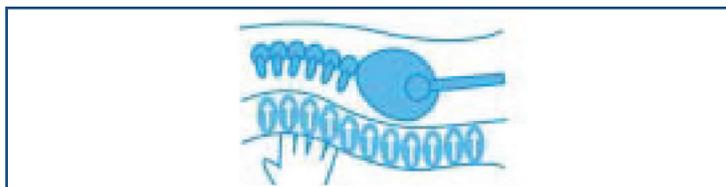
A firm surface will make it easier for the patient to transfer or reposition. Make use of the static mode function. To sit a patient up in bed, use the pressure knob. Increase the pressure so that the patient is properly supported.



### Hand check:

Check if the pressure is properly adjusted by sliding one hand between the air mattress and the foam base (or bed frame if there is no foam base) to feel the patient's buttock.

Users should be able to feel the space in between, and the acceptable range is approximately 25 to 40 mm (1" to 1-1/2"). This hand check procedure is issued by AHCPR.





**Always read the operating instructions before use.**

Please follow instructions below for detailed operating procedure of each type.

### **Step 1**

Turn on the power. The indicator light on the power switch will come on.

The pump starts to pump air into the mattress.

The Low Pressure indicator (yellow or red) will come on as inflation undergoes.

The audible alarm is activated, accompanying with the Low Pressure indicator, to alert that pressure is low. Press the Alarm Reset button to mute the audible alarm, and its indicator will flash.

**NOTE!** For first inflation, we recommend that you press both the Alarm Reset and Static buttons to enter a quick and silent operation.

### **Step 2**

When the pressure reaches the preset level by factory default within approximately 30~45 minutes, the Normal Pressure indicator will come on, and the Low Pressure indicator (and the audible/visible alarm) will turn off.

**NOTE!** If the Low Pressure indicator (and the audible/visible alarm) won't go off, please refer to page 15 for troubleshooting.

### **Step 3**

Turn the pressure-adjust knob to set a comfortable pressure level from soft to firm. (Pressure range: 30~60 mmHg for Q2-02).

**NOTE!** For suitable pressure, please refer to page 9 for the hand check procedure.

### **Step 4**

The pump is preset in alternating mode and its cycle time is set at 10 min/60Hz or 12 min/50Hz.

Press the Static button to set it in static mode, and the Static indicator will come on. The static mode will be started within approximately 6 minutes. Press the Static button again to switch back to alternating mode.

**NOTE!** In static mode, the mattress provides a firm surface that makes it easier for the patient to transfer or reposition. The static mode prevents the patient from bottoming out when in a sitting position.

### **Step 5**

During normal operation, the pump will monitor pressure changes. If the pressure is below a user-defined pressure level, the pump will automatically start to inflate the mattress. Accompanying with the Low Pressure indicator, the audible alarm will beep and its indicator will come on to bring attention to a low pressure condition. The pump will stop when the user-defined pressure level is reached.

Press the Alarm Reset button to mute the alarm; its indicator will flash.

Press the Alarm Reset button again to have the audible alarm and its indicator on.

# OPERATION



**Always read the operating instructions before use.**

## **CPR FUNCTION**

When there is an emergency to perform CPR on the patient, pull the CPR strap at the head section of the mattress to release the air quickly from the mattress.

The CPR strap is located at the front right-hand side of the mattress.

## **PRESSURE SET UP**

Users can adjust the pressure level of the air mattress to a desired firmness by themselves or according to the suggestion from a health care professional.

**NOTE!** It is recommended that the pressure-adjust knob turned to Firm or press Auto Firm on the panel when the mattress is first inflated. Users can then easily adjust the air mattress to a desired firmness according to the patient's weight and comfort.

## **LOW PRESSURE WARNING**

When abnormal pressure occurs, the Low Pressure indicator will come on. For Q2-02 and Q2-03, the audible alarm will be activated to bring attention to a low pressure condition.

Check if the connections are secure and correctly installed according to the relevant instructions.

**NOTE!** If the pressure is consistently low, check for any leakage (in tubes or connecting hoses). If necessary, contact your local dealer to replace any damaged tubes or hoses.

In this section, we describe the procedures to clean and decontaminate the pump. It is important to follow these procedures before using the system again.

The cleaning task is required at least once a week to maintain personal hygiene.

## **PUMP**

- DO NOT immerse or soak the pump.
- Check for external damage and move the pump to the cleaning area.
- Place the pump on a work surface and spray or wipe the outside of the case with quaternary ammonium solution.
- DO NOT spray any cleaning solution directly on the surface of the pump.
- DO NOT use a Hypocarbonate or Phenolic based cleaning solution as this may cause damage to the case. Allow the solution to incubate for 10 minutes or accordingly as stated by the cleaning product used.
- Wipe case with a clean cloth. Make sure all areas are clean (top and bottom, both sides).
- Spray cloth with cleaning solution and clean faceplate. DO NOT allow excess cleaning solution on faceplate or control panel. (If solution gets inside, damage will occur.) Allow surface to thoroughly dry after cleaning.
- After the pump is thoroughly cleaned and dried, proceed to plug in the pump and test to see if it runs normally.
- Unplug the pump and store with proper identification tag.
- Avoid long exposure to sunlight.

## **MATTRESS**

- Brush off or wipe down all surfaces of the cover sheet with soap and water before wetting with any liquid disinfectant.
- Any obvious blood spots should be wet thoroughly with 1:9 Hypochlorite solution (1 part bleach to 9 parts water) and allow drying for at least 10 minutes. Then blot with a clean, damp cloth.
- Unzip the top cover from the mattress.
- Brush or wipe down all surfaces with soap and water before applying any liquid.
- Covers are immersed and soaked in disinfectant for the required incubation time.
- After pre-soaking, the cover is rinsed through a regular cycle in a washer with no soap then laundered with mild detergent (wash temperature 93°F, rinse temperature 78°F or on the coldest setting).
- Covers are aerated until they are fully dry. (Drying temperature range 90-120°F or on the coldest setting.)
- The air cells are unsnapped from one side and are sprayed on all sides with a disinfectant. Let it sit for the required incubation time and wipe down with a clean cloth. (Make sure to disconnect all the air cells, one by one, and spray the disinfectant on all sides, including all the connecting tubes and hoses. Let it sit for least 10 minutes. )
- If there is a base after you remove all the air cells, the base has to be sprayed down with the disinfectant, inside and outside. Let it sit for the required incubation time and wipe down with a cloth.
- Repeat the process with the tubing set: spray, incubate, and then wipe clean.
- The carrying bag should be turned inside out and completely wiped down using the disinfectant solution. Allow it to thoroughly air dry. Once the inside is dry, turn it back: wipe down the outside of the bag with disinfectant.
- Dry the mattress on a SUNLESS area after cleaning.
- Avoid long exposure to sunlight.

## HANDLING & 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 the national requirement to dispose of the mattress or pump.

## MAINTENANCE

### GENERAL

- Check the power cord and plug to see if there are abrasions or excessive wear.
- Check the mattress cover for signs of wear or damage. Ensure the mattress cover and tubes are connected together correctly.
- Plug in the pump and check the airflow from the hose connection port. The airflow should alternate between ports every half-cycle time.
- 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 pump 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 pump and the mattress connections or from the air mattress tubes:

- Check connectors between the air mattress and pump. If there is any disconnection, please reconnect it.
- Check the CPR Valves. Ensure their outlets are sealed.
- Check the air-connecting tubes. Ensure each single cell is not broken.
- Turn the pressure-adjust knob to Firm. Keep the tubes fully inflated and inspect for air leakage.
- Check if there is any air leakage from cells. Ensure no leakage occurs. If any leakage occurs, please contact your local agent or dealer.

PROBLEMS	SOLUTIONS
The pump 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 pump 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 (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 pump 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. Replace the filter when dirty.</p> <ul style="list-style-type: none"> <li>• Check the air filter at the back of the pump 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, T1A
Pressure Range	30 ~ 60 mmHg
Cycle Time	12 min/50Hz, 10 min/60Hz
Dimensions (Pump)	28.0 × 10.0 × 20.5 cm (11.0 x 3.9 x 8.1 in)
Weight	2.6 kg (5.7 lbs)
Environment Requirements	Temperature: Operation 50°F~95°F (10~35°C) Storage 5°F ~122°F (-15~50°C) Shipping 5°F ~158°F (-15~70°C) Humidity: Operation 20%~80% non-condensing Storage 10%~90% non-condensing
Safety Standards	UL, c-UL, CE

\* 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.

Your Drive brand product is warranted to be free of defects in materials and workmanship for 12 months of the original consumer purchaser.

This device was built to exacting standards and carefully inspected prior to shipment. This 12 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.

In the event of a defect covered by this warranty, we will, at our option, repair or replace the device.

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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