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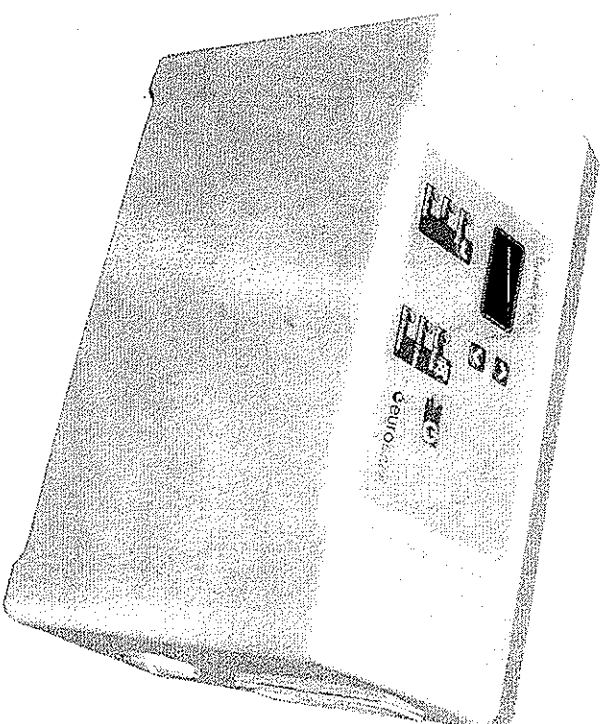


Acute Healthcare Pty Ltd

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User Manual
Dynamic Plus SUPPORT SURFACE



Preface

Dear User:

Thank you for your purchase Singa's product. Please keep the following data for the after service and the maintenance in the future. Thank you for your attention.

1. Product series label (with the product series No.)
2. Purchase record, invoice, receipt (with date of purchase and shop stamp)
3. Product warranty (with date of purchase and shop stamp, Model number & serial No. is required)
4. Product carton (with product series No.)

If any question for the product, you can provide us any one of the above purchase record, we will offer the fast after service.

Dynamic Plus mattress is designed

The Dynamic Plus surface support system includes the air mattress and the air pump. Dynamic Plus air mattress can ensure the patient decubency stability and the user can avoid suffering from skin tissue damage and the risk of bedsores. The Dynamic Plus surface support system enables the patient weight to be spread all over on the mattress. Any movement or posture on the bed, the pressure can be released. Dynamic Plus surface support system can always the user's body and the body can be completely immersed in the mattress, it can well support the user's body and let the pressure on the skin to be released.

Whom does the surface support system we design for?

- Patients who are short term lying in bed to prevent bedsores (such as accidental injury or heavy patients)
- bedridden patients (such as the elderly, severe bedridden patients, vegetative, etc.)

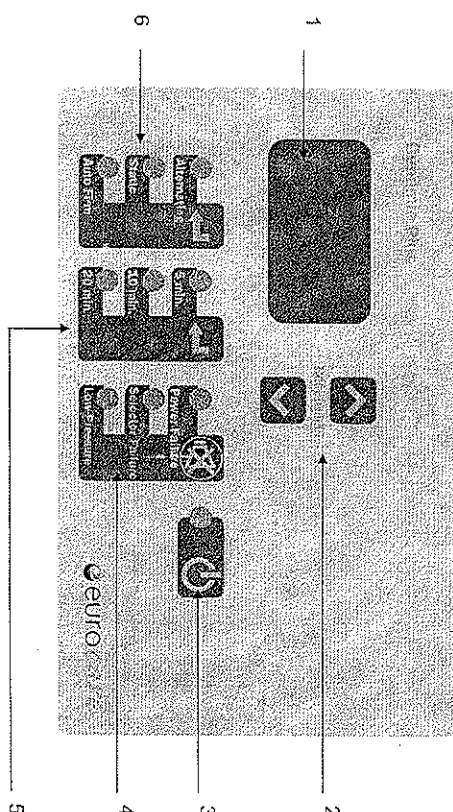
The purposes of the Dynamic Plus surface support system?

- To spread the pressure on the body / skin.
- To prevent and decrease the skin bedsores.

We recommend to change the position of the pressure points in the skin (such as: to let the patients stand up or turn over or lift the patient's body). That's the best way to prevent the skin tissue damaged and the bedsores occurred.

Function Introduction

Dynamic Plus : Model 1



Description of Device

1. TN-LCD monitor :

High efficiency power saving LCD, indicating the current operation function of

Dynamic Plus.

2. Weight option:

Input the user's weight value, then the Dynamic Plus CPU will automatically



set up the most suitable pressure value of the pump.

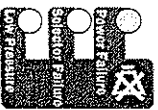
3. Power :

Following the user manual, the user sets up the Dynamic Plus and the air

mattress, then turn on the power on the left side. Once the power light is on, the Dynamic Plus is ready and standby. Then user can start to operate any function and use the Dynamic Plus pump.

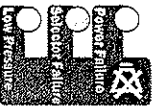
4. Alarm Functions of the Device :

a. Power Failure:



- (i) When the yellow light is on, it means the power (AC100~240V) does not work. The power might shut down or the power cord is pulled out. Please check the power supply and the electric plug.
- (ii) If the yellow light start twinkling every single second, it means the 9V battery power is weak. Please change a new 9V battery, to ensure the Dynamic Plus in good function of alarm.

b. Selector failure :



If the Selector Failure lights on, it means the air pump can not work in good condition to alternate. Please kindly contact our agents for the repair; never try to fix it by yourself.

c. Low Pressure:



If the low pressure light is on, it is the mattress of air leaking. Please following the procedure of "troubleshooting" to check the mattress.

5. Alternating period:



Dynamic Plus provides three options (5/10/20 min.) of cycle time. User should follow up doctors' instructions to select the alternating period.

[NOTE] Singa highly recommend to set up 10 mins. for the mattress

alternating. It is the best set up after testing for user's pressure relief and the most power saving efficiency.

6. Operation mode:

a. Alternating:



To select the Alternating Mode, it enables the mattress to alternate by every three cells.

b. Static:



To select the Static Mode, the device will stop alternating. It will support a firm surface and keep the specific low pressure which allows patient a good sleep.

[Note] : The pump will change to "Alternating" mode after 2 hours of using Static Mode in order to keep the blood circulation function normally and prevent the pressure ulcers effectively.

c. Auto Firm:



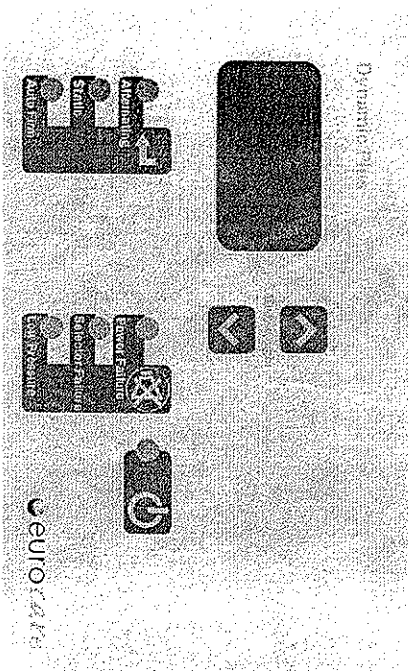
Auto Firm "ON" represents "Auto Firm" mode, the device will support a firm surface and keep the specific high pressure which provides patient a safety support.

P.S : A. Make sure the nursing staffs assist patient to get off the bed, and use

the qualified safety device to ensure patient against accidents.

B. Suggest the user get back to the mattress and select the Alternating Mode, when he gets off the mattress in the auto firm mode. That can prevent the patient from ulcers.

Dynamic Plus Model M2

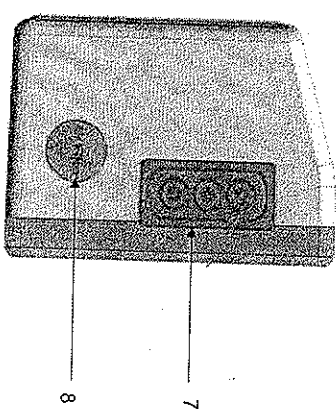


Device introduction

Please refer the M1 introduction.

[NOTE] Dynamic Plus M2 features with no "cycle time" function

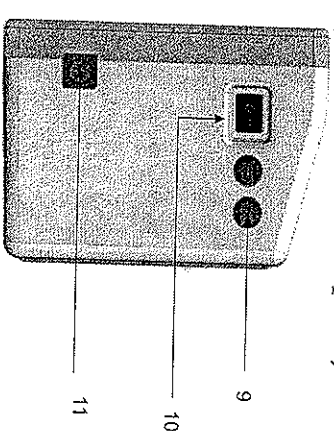
Dynamic Plus (Right side photo)



7. Tri-tube out-put: Air Flow out-put and Quick Connector

8. Filter: Air Flow in-put with an Air Flow Filter inside.

Dynamic Plus (Left side photo)

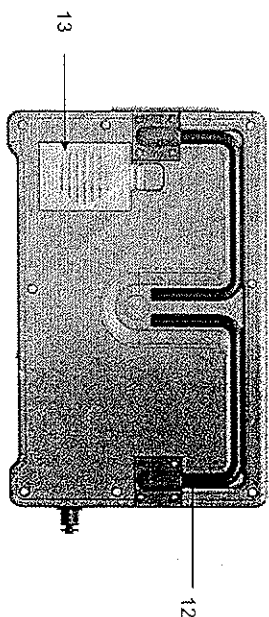


9. Two Power Fuses: water and fire wire are separated, it complies with the standard of CE and FDA medical regulation

10. Power Switch: 【—】 POWER ON : 【O】 POWER OFF

11. Power Connector: Plug the power cord in this connector to provide the pump power (AC100/220V 50/60Hz)

Dynamic Plus (Back side photo)



12. Fixed Hooks : To fix Dynamic Plus on bed edge with the hook and make sure the knots tighten on the bed board.

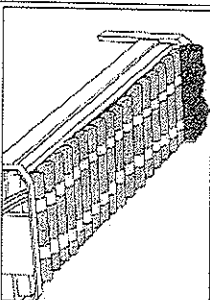
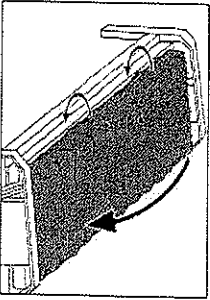
13. Battery Chamber: With built-in 9V battery inside; it's mainly used for Alarming Buzzer Power. The battery is consumable, please check it frequently and replace new one (When the Power Failure lights on and flashes every single second, meaning it's power shortage. Please change a new 9V battery to ensure the power for Alarm Function workable.)

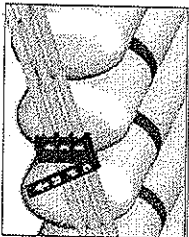
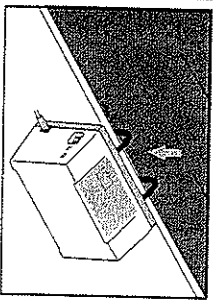
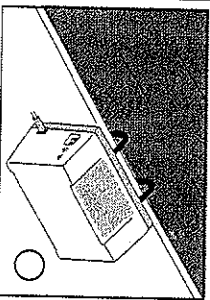
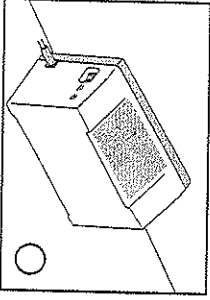
[NOTE] Be sure to use the standard 9V battery. To use either Alkaline, Lithium Cell, or Ni-MH battery is prohibited.

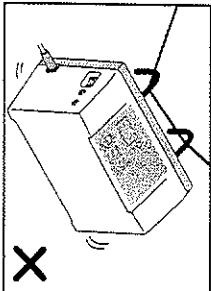
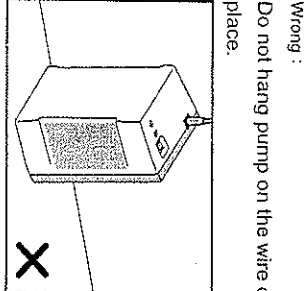
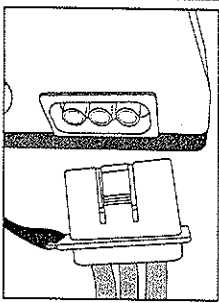
Specification

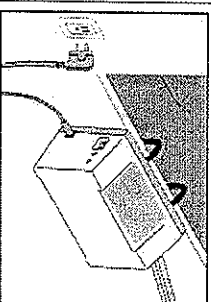
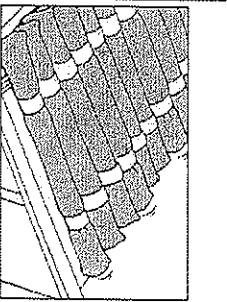
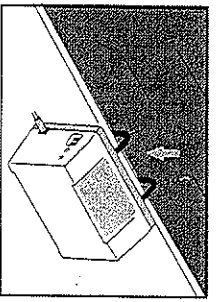
Dynamic Plus Specification			
Model	M1	M2	
Air output (LPM)	8	8	
Electrical AC 100-110V/60Hz, AC 220-240V/50Hz	V	V	
Working Surrounding	20-40°C / 68-104°F	20-40°C / 68-104°F	
Multiple Sections for Patient's weight (30~150kgs)	V	V	
3 Sections A:B:C rating	V	V	
Cycle Time	5/10/20 mins. Selectable	8 mins	
Operation Mode (Alternating/Static/Auto Firm)	V	V	
Transport	V	V	
Power Failure alarm	V	V	
Selector Failure alarm	V	V	
Low pressure alarm	V	V	
Auto-pressure detector	V	V	
TN- LCD Display	V	V	
Length of Power cord	300 cm	300 cm	
Weight	3.2 kgs	3.2 kgs	
Dimension	W260XD125XH170mm	W260XD125XH170mm	
Regulation	IEC60601-1-1 IEC60601-1-2 CE(Europe) GMP(Taiwan) ISO13485 ISO9001/2008		

Dynamic Plus Installation

	<p>STEP 1 : Place the mattress flatly on the soft bed. The inflation tubes should be towards the foot end so that they can be connected to the inflation nozzles on the pump.</p> <p>CAUTION :</p> <ol style="list-style-type: none"> 1. Please have the tube (to connect with pump) at the end side of mattress(foot), that will be easy to connect with the Dynamic Plus. 2. Please place the Blue Strip with SINGA Logo near the foot end(from the right hand side of mattress bottom end). 3. For the 4"/5" air mattress setting up, please place the mattress on the soft mattress. If you use 8" or 10" air mattress, please remove the soft bed, and place the mattress on the bed frame. So that the user would not fall due to the mattress over higher than the bed barrier.
	<p>Step 2 : Open the cover and organize cells overlapped. Put holders under the mattress of the bed head and bedding last, or four straps fixed at the corners of the mattress (or bed frame) to avoid air mattress slide.</p> <p>CAUTION :</p> <ol style="list-style-type: none"> 1. Open the cover to check each nozzle tightly connected to beige tubes by the side of the mattress. 2. Check CPR stopper tightly connected with mattress. In case of emergency, please pull out the CPR release valve for emergency rescue use in a short period of time.

	
<p>3. Carefully Check the tubes can not be folded, or disconnected with the beige tubes by the side of the mattress.</p> <p>Step 3 : Hang up the pump over the frame or board at the foot end of the bed. Or, put pump on the ground under the bed. Make sure the pump is upright and secured.</p> <p>CAUTION : CORRECT INSTALLATION of Dynamic Plus pump properly placed by the following figures</p> <div> <p>Correct :</p>  <p>Use the hanger to hang pump over the frame</p>  <p>Correct : Put pump on the ground under the bed. Make sure the pump is upright and secured.</p> </div>	

	<p>Wrong :</p> <p>Do not hang pump on the wire or unstable place.</p>
	<p>Wrong :</p> <p>Do not put pump upside down or sideways.</p>
	<p>Step 4 : Connect the quick connector with pump till the "click" sound heard.</p> <p>CAUTION :</p> <ol style="list-style-type: none"> 1. Way to pull out the quick connector: 1) use the thumb and index finger from the right hand to gently press both ends' grooves, 2) to hold <i>Dynamic Plus</i> pump from left hand at the same time. 2. Without properly removing the quick connector by pressing both ends' grooves and hold <i>Dynamic Plus</i> pump from left hand, you might break up the Quick Connector by strong force incidentally. Note if operation is not done properly, the company will be unable to compensate. <p>Step 5 : The power cord of pump is connected to the household main (110V or 220V) power supply</p> <p>CAUTION :</p> <p>Before you plug in power cord into the outlet, make sure the voltage is compatible.</p>

	<p>Step 6 : Turn on the power switch in the right hand side of pump to light up the green(power indicator). pump is in standby.</p> <p>Users press the power indicator) and LCD panel shows figures.</p>
	<p>Step 7 : About 40-80 minutes, the mattress getting inflated, and organize the cells overlapped in order. Avoid the cells squeezed.</p> <p>Step 8 : Fixed the release buckles (or zip up the mattress) and flat the cover.</p> <p>CAUTION :</p> <ol style="list-style-type: none"> 1. First time fully inflation will take around 40-80 minutes, in accordance with different sizes of the mattress. 2. The user will be placed on the mattress when getting inflated (Step 7).
	<p>Step 9 : Weight selection</p> <p>Press the indicator to select weight, corresponding to user's body weight. LED indicator shows user's weight. pump outputs proper air pressure of user's body weight.</p> <p>CAUTION:</p> <ol style="list-style-type: none"> 1. Don't put too heavy or thick blanket on the mattress, it may reduce the bedsores relief. 2. Air mattress is intended for the effect in reducing the incidence of skin pressure and prevention of bedsores. <p>We highly recommend the users should be turned over or get off the bed daily, then alleviate or ease the pressure of the skin by using mattress.</p>

Automatic Stop Inflation

Dynamic Plus pump's "Power Saving Mode" is controlled by microcomputer which limits further inflation while the air inflation reaches the default High air pressure of the cells. Also, While the air pressure drops below the default Low air pressure limit, *Mat air* pump automatically detects of insufficient air pressure from the cells and then starts inflation.

Dynamic Plus pump - Operation Instruction

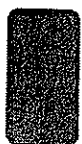
【Alternating Mode】

STEP 1 :

Turn on the power switch on the right side of *Dynamic Plus* pump to light up the green **【power indicator】** by the left side of panel. *Dynamic Plus* pump is in standby mode.

Users press the power indicator and LCD panel shows figures. *Dynamic Plus* is in boot state.

STEP 2 :



Press **【Weight Indicator】** to select weight, corresponding to a user's body weight.

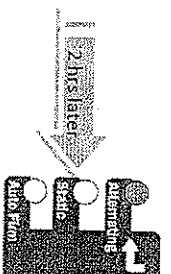
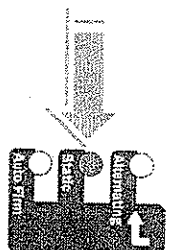
STEP 3 : Select 【alternating】



After Power On, the Pump will switch to **【Auto Firm】**, to detect if any damage or air leakage from the cells.

If the air pressure from the cells reach the Default High Air Pressure limit, the pump will switch to **【Alternating】** automatically.

【Static Mode】

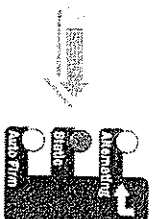


STEP 1 : Select **【Static】** while the *Dynamic Plus* is in **【Alternating】** mode

Note 1 : *Dynamic Plus* pump automatically distributes the airflow to fully inflate the cells up to 65% of air pressure. Each cell is inflated in moderate hardness to provide users comfort of the appropriate decompression mattress. Users have a good sleep.

Note 2 : In order to prevent the occurrence of bedsores and pressure ulcers, the pump will change to "alternating" mode after 2 hours of being in "static". Because of poor decompression of skin during sleep, please carefully set this mode on operation.

STEP 2 : Select **【Alternating】** when *Dynamic Plus* working in **【Static】** mode



Dynamic Plus pump will be switched to "Alternating" mode.

※Recycle Mode :

【Alternating Mode】 → **【Static Mode】** → **【Auto Firm Mode】** → **【Alternating Mode】**

【Auto Firm】 Mode

STEP 1 : Select **【Auto Firm】** when *Dynamic Plus* is in **【Alternating】** mode. Mai, air will go to **【Auto Firm Mode】** from **【Alternating Mode】** → **【Static Mode】** → **【Auto Firm Mode】** as a cycle.

Note 1 : *Dynamic Plus* pump automatically distributes airflow to fully inflate the cells up to

100% of air pressure. Each cell is inflated in hardness to help users get off the mattress easily. The mattress will keep hardness and offer the best body support, from which will be at nursing carer's convenience for taking shower or feeding for the user.

Note 2 : I. During the **【Auto Firm】**, We highly recommend the user should be accompanied by carer to avoid unexpected injury from loosing balance.









II. To prevent the bedsores get worse or the occurrence of bedsores and pressure ulcers, the pump will automatically switch to **【Alternating Mode】** after 2 hours of being in "Static" mode.

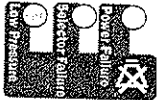









STEP 2 : Select 【Alternating】 when *Dynamic Plus* working on 【Auto Firm】

Dynamic Plus pump will be switched to **【Alternating】** Mode with no delay.

Troubleshooting

When *Dynamic Plus* pump functions properly, no LED light of failure on the panel will light up. If one of failure LED lights up, please refer to the troubleshooting list as below.

Problem	Possible cause	Solution
【power indicator】 Fail to light up. 	Fuse burned.	Replace the earth or hot wire fuse in left of the pump.
【power indicator】 Fail to light up. 	Motherboard Failure	Please contact with the distributors.
【power failure】 Yellow lights up 	Unable to power mains (AC220V)	1. Press  to turn off the buzzer. 2. Check if outlet supply is normal and/or if there is the mains power outage. 3. Check if the host power cord plug is loose.
【power failure】 Yellow flashing lights 	9V square battery is low	1. Press  to turn off the buzzer. 2. Replace immediately the 9V square battery to protect all warning function properly.
【alternating failure】 Yellow lights up 	Internal Air Allocation module of the pump is out of work	1. Press  to turn off the buzzer. 2. Please contact with the distributors.

<p>【low pressure】 Yellow lights up.</p> 	<p>Air leak of the quick connector</p>	<ol style="list-style-type: none"> 1. Press  to turn off the buzzer. 2. Check up if the black rubber oil seal from the quick connector is broken. 3. Check up with the quick connector well connected to the main device properly. 4. Check up if the quick connector end well connected to the beige tubes by the side of mattress
<p>【low pressure】 Yellow lights up.</p> 	<p>Air leak of beige tubes by the side of mattress.</p>	<ol style="list-style-type: none"> 1. Press  to turn off the buzzer. 2. Check up if beige tubes are broken. 3. Check if beige tubes well connected with the tubes of mattress
<p>【low pressure】 Yellow lights up.</p> 	<p>Air leak of the CPR emergency valve</p>	<ol style="list-style-type: none"> 1. Press  to turn off the buzzer. 2. Check if CPR emergency valve is closed 3. Check if CPR emergency valve is connected with the tubes of the mattress.
<p>【low pressure】 Yellow lights up.</p> 	<p>Air leak of the round one-way valve</p>	<ol style="list-style-type: none"> 1. Press  to turn off the buzzer. 2. Check if the round one-way valve is broken. 3. Check up if the round one-way valve well connected with beige tubes by the side of mattress
<p>【low pressure】 Yellow lights up.</p> 	<p>Air leak of the cells</p>	<ol style="list-style-type: none"> 1. Press  to turn off the buzzer. 2. Check up if leakage from cells 3. Check up if the beige tubes well connected with the cells.

Maintenance

Please refer to the recommendation regarding regular cleaning and maintenance of the *Dynamic Plus* pump and the air mattress.

Dynamic Plus pump

- ▶ DO NOT immerse or soak the pump which will cause *Dynamic Plus* badly damaged
- ▶ Place the pump on a work surface and spray or wipe the outside of the case with quaternary ammonium solution. (if cleaning solution gets inside, damage will occur.)
- ▶ It is recommended to replace the air filter of the pump every 3 months in order to safeguard the normal air flow and air pressure of *Dynamic Plus* pump.

Air mattress

- ▶ Separate the cover and cells, washing by warm water below +25°C, and low irritating detergent per week at least, in order to safeguard the health of users.
- ▶ Dry the mattress on a SUNLESS area after cleaning. Do not use dryer drying the cover. This will easily lead to the separation of composition of the cover which affects the normal functions of waterproof and air permeability.
- ▶ Wash the cover immediately and clean up the contamination once air mattress set is contaminated by the users' urine, blood, body fluids, excreta or food, in order to safeguard the users' health.
- ▶ To maintain hygiene, pressure relief and feeling of comfortable, it is recommended to replace the cover when it is broken or washed more than 20 times.

Handling and Storage

Dynamic Plus pump

- Unplug the pump and store with proper identification tag. Wind the power cord and place it in a suitable plastic bag. Follow the national requirement to dispose the pump.

Air mattress

- Do not fold or roll the mattress after deflating the air mattress.
Lay the mattress flatly for storage, avoiding in the conditions of high temperature, humidity, direct sunlight, and heavy crush.

IMPORTANT SAFEGUARDS

DANGER

To reduce the risk of operation

- Before using *Dynamic Plus* pump and air mattress, please read this user's manual and follow the steps of the proposed operation to avoid the risk of improper operation.
- This equipment is strictly prohibited combination with other devices. In order to avoid the risk of improper operation.
- Once the fault occurred, please follow the Troubleshooting Guide or repair of the regional distributors at the moment. Please stop using of this equipment.

To reduce the risk of electrocution

- Use a grounding wire with a grounding pin, then this three-wire plug must be plugged properly into an outlet and grounded as shown in national requirement.
- The users take a sponge bath or shower on the mattress, please set *Dynamic Plus* pump power off.
- Do not place and use this equipment in the bathroom or high humidity environment.

To reduce the risk of mechanical injury

- Please mount this equipment in accordance with the users manual. It may cause the users or the equipment fall down without following installation of users manual
- Do not disassemble the device by the non-authorized repair professionals.

To reduce the risk of chemical injury

- Use the suitable battery according to the specification of users manual.

WARNING

- This equipment is strictly prohibited combination with other devices, in order to avoid the risk of improper operation.
- Do not use with non standardized parts.
- Do not smoke around this equipment to avoid the risk of fire.
- Place this device away from the source of heat and fire to avoid the risk of endangering this equipment.
- Do not install this equipment in place away from the professional medical beds, to prevent users from mechanical injury risk.
- The device is limited to indoor use. It is strictly prohibited to install the device in outdoor.
- This equipment is strictly prohibited the sharp objects or nearby hairpins metal jewelry or needles, to avoid the risk of the mattress broken.

Consumption of Parts FUNCTION and PROPOSED

PARTS	FUNCTION	Recommended replacement time
9 volt battery	Provide electricity to all warning function message	Replace the battery immediately as (power failure) yellow flashing lights
Air filters	Provide clean air to pump	Replace once every 3 months
Dial lubricants	Lubrication use of gas circulation motor actuation	Smear the motor annually
Cover	Protect tubes and cells cleaning. Keep users in a waterproof & breathable environment.	Replace the cover as broken or washed 20 times
Hypoallergenic environmental TPU cell	Provide physical support, skin vacuum!	Replace TPU cells once every 3 years or cell is broken.
Beige tubes by side of the mattress	Maintenance cells airtight	Replace beige tubes once every 2 years, or tube is broken.
Oil seal	Maintenance cells airtight	Replace oil seal once every 5 years

Above conditions due to equipment location there is a significant gap, the Company reserves the right to modify and recommendations based on the actual situation.

Dynamic Plus Surface Support System

2-Year Limited Warranty

Acute Healthcare Pty Ltd covers any defects in materials or workmanship of the Dynamic Plus Surface Support System, under normal use and specified conditions, for a period of two years from the date Dynamic Plus Surface Support System was originally purchased as a new one, no matter who is the present owner.

Within a reasonable amount of time after you return the pump/mattress to us, we will repair any defect in material and workmanship and ship it back to you, all free of charge. We will not repair a pump or mattress free of charge if it has been misused or damaged by an accident.

You must send the pump or mattress to us with the original sales ticket and you must pay all delivery costs. It must be sent to Acute Healthcare Pty Ltd. You must return the warranty registration card, attached to this brochure, or register the warranty online, within thirty days of purchasing the cushion. We will not require the original sales ticket if you or the previous owner, have completed and returned the warranty registration card / registered the warranty registration form online, and we have it on file. Failure to submit the original sales ticket or failure to have the warranty registration card in our file voids this warranty.

Acute Healthcare Pty Ltd shall not be responsible for incidental or consequential damages with respect to economic loss or injury to person or property, whether as a result of breach of warranty, negligence or otherwise. Acute Healthcare Pty Ltd will not be responsible for the results of careless handling or unreasonable use.

Any impelled warranties arising by operation of law shall be limited in duration to the terms of this warranty. This warranty gives you specific legal rights, and you may have other rights that vary from state to state.

For any further information, please contact our Customer Services Department



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