

User Manual

Mai.air SUPPORT SURFACE



Preface

Dear User:

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

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

If any questions about the product, you can provide us with any one of the above purchase records, and we will offer timely after-sales service.

Mai.air mattress is designed

The Mai.air surface support system includes the air mattress and the air pump. Mai.air air mattress can ensure the patient's decumbency stability and the user can avoid suffering from skin tissue damage and the risk of bedsores. The Mai.air surface support system enables the patient weight to be spread all over the mattress. With any movement or posture on the bed, the pressure can be released. Mai.air surface support system can shape 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 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 Mai.air surface support system?

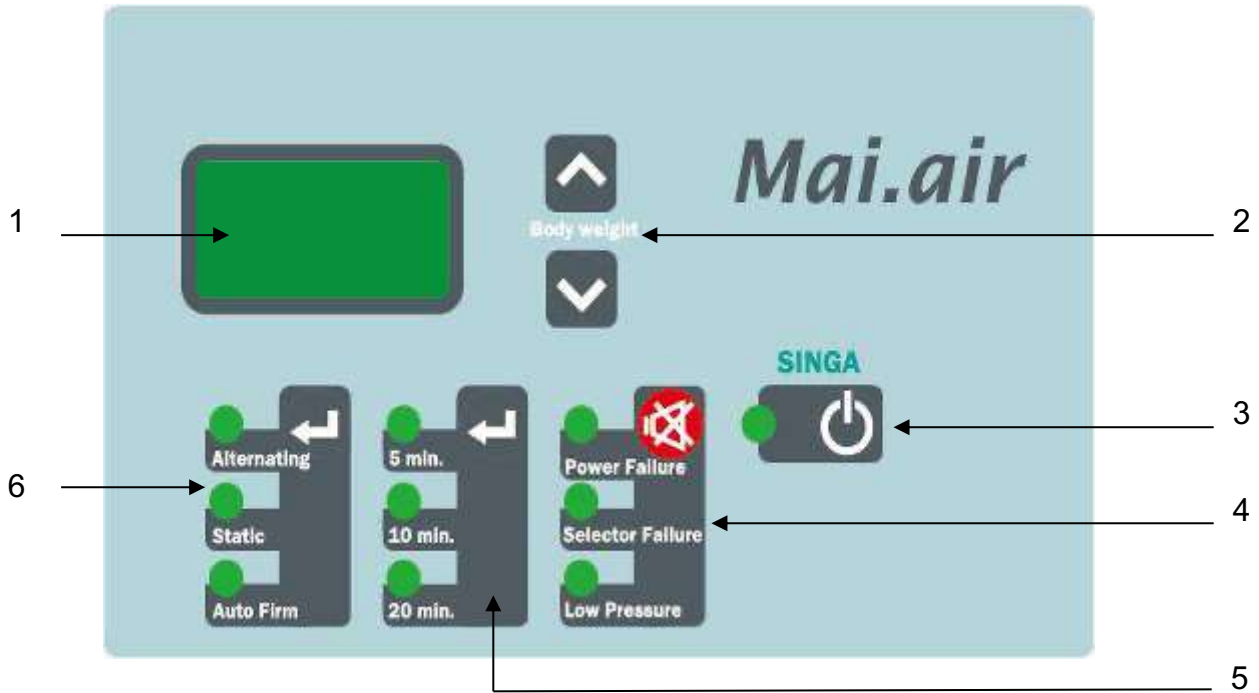
- ▶ To spread the pressure on the body/skin.
- ▶ To prevent and decrease skin bedsores.

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

Function Introduction

Mai.air : Model 1



Description of Device

1. LED monitor:

High-efficiency power-saving LED, indicating the current operation function of *Mai.air*.

2. Weight option:



Input the user's weight value, then the Mai.air CPU will automatically set up the most suitable pressure value of the pump.

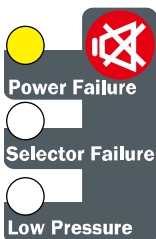
3. Power :



Following the user manual, the user sets up the *Mai.air* and the air mattress, then turn on the power on the left side. Once the power light is on, the *Mai.air* is ready and on standby. The user can start to operate any function and use the *Mai.air* pump.

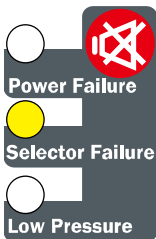
4. Alarm Functions of the Device :

a. Power Failure :



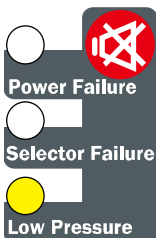
When the yellow light is on, it means the power (AC220V) does not work. The power might shut down or the power cord is pulled out. Please check the power supply and the electric plug.

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.

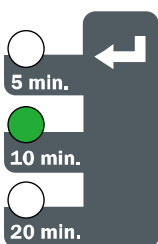
c. Low Pressure :



If the low-pressure light is on, it is the mattress of air leaking. Please follow the procedure of “troubleshooting” to check the mattress.

5. Alternating period :

Mai.air provides three options (5/10/20 min.) of cycle time. The user should

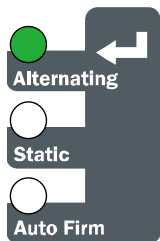


follow up with doctors' instructions to select the alternating period.

[NOTE] Singa highly recommends setting up 10 mins. for the mattress alternating. It is the best setup after testing for user pressure relief and the most power-saving efficiency.

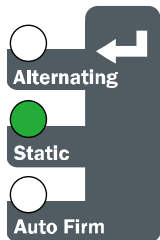
6. Operation mode :

a. Alternating :



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

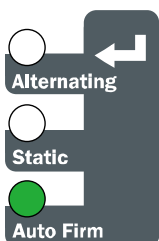
b. Static :



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

[Note]: The pump will change to “Alternating” mode after 8 hours of using Static Mode in order to keep the blood circulation functioning normally and prevent pressure ulcers effectively.

c. Auto Firm :

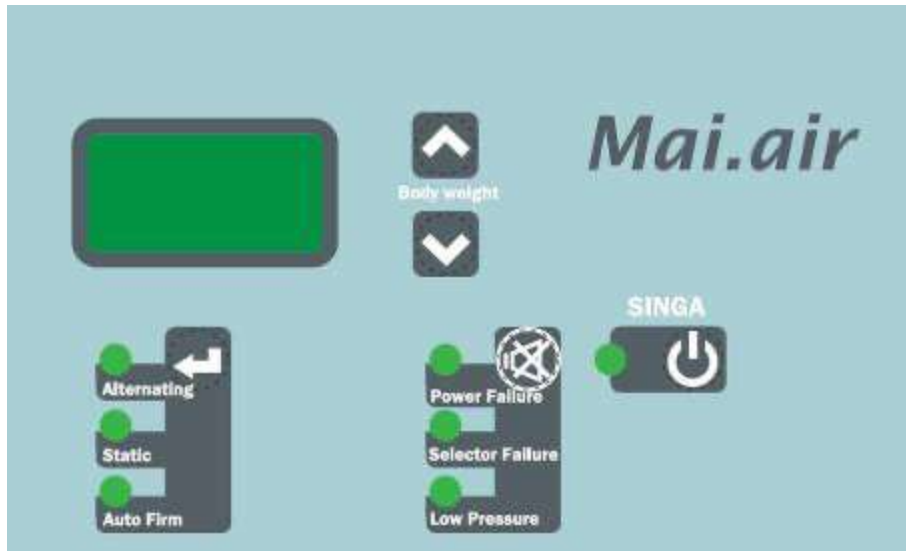


Auto Firm “**ON**” represents “Auto Firm” mode, the device will support a firm surface and keep the specific high pressure which provides the patient safety support.

P.S : **A.** Make sure the nursing staff assists the patient to get off the bed and use the qualified safety device to ensure the patient is 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.

Mai.air Model M2

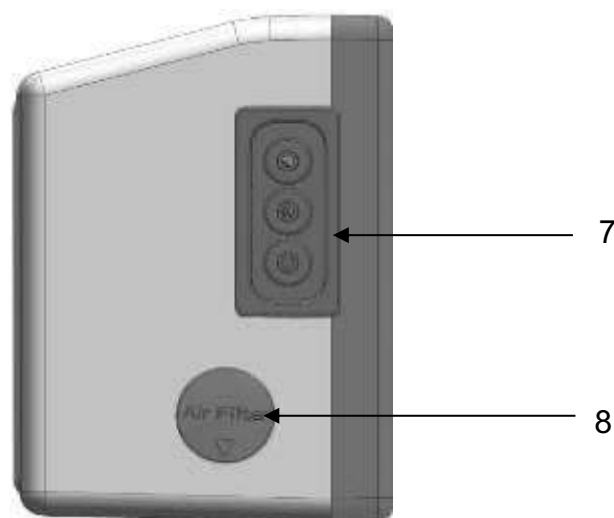


Device introduction

Please refer the M1 introduction.

[NOTE] Mai.air M2 features with no “cycle time” function

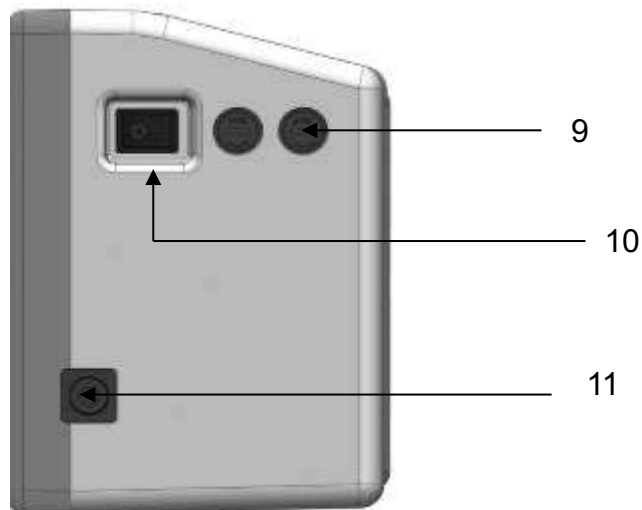
Mai.air (Right side photo)



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

8. Filter: Air Flow input with an Air Flow Filter inside.

Mai.air (Left side photo)

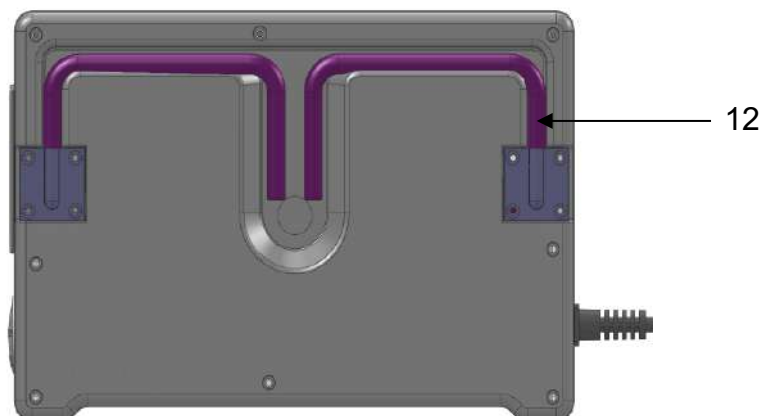


9. Two Power Fuses: water and firewire are separated, it complies with the standard of CE and FDA medical regulation

10. Power Switch: 【—】 POWER ON ; 【○】 POWER OFF

11. Power Connector: Plug the power cord in this connector to provide the pump power (AC220V/50Hz)

Mai.air (Back side photo)



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

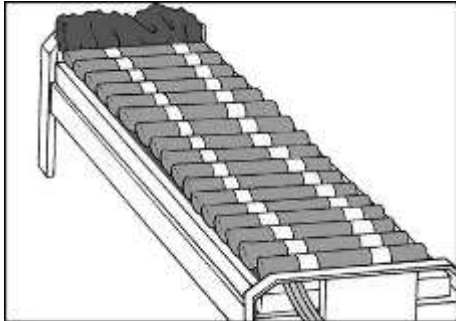
Specification

Mai.air 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	8.5 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
LED Display	V	V
Length of Power cord	300 cm	300 cm
Weight	3.4 kgs	3.4 kgs
Dimension	W260XD125XH170mm	W260XD125XH170mm
Regulation	IEC60601-1-1 IEC60601-1-2 CE(Europe) ISO13485 ISO9001	

Above specifications are subject to change without prior notice.

Mai.air Installation



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.

 **CAUTION:**

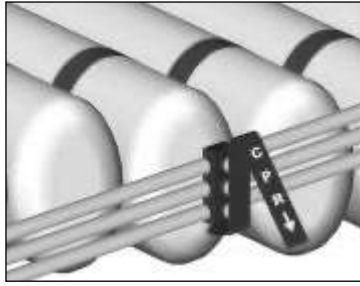
1. Please have the tube (to connect with the pump) at the end side of the mattress (feet), that will be easy to connect with the Mai.air.
2. Please place the Blue Strip with SINGA Logo near the food end (from the right-hand side of the mattress's bottom end).
3. Please place the mattress on the soft mattress for the 4" or 5" air mattress set up.
If you use an 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.



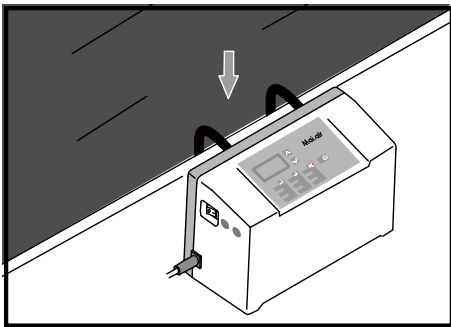
Step 2: Open the cover and organize the cells' overlap. Put holders under the mattress of the bed head and bedding last, or four straps fixed at the corners of the mattress (or bed frame) to avoid air mattress slide.

 **CAUTION:**

1. Open the cover to check each nozzle is tightly connected to tubes by the side of the mattress.
2. Check the CPR stopper is tightly connected to the mattress. In case of an emergency, please pull out the CPR release valve for emergency rescue use in a short period of time.



3. Carefully Check the tubes can not be folded, or disconnected with the tubes by the side of the mattress.

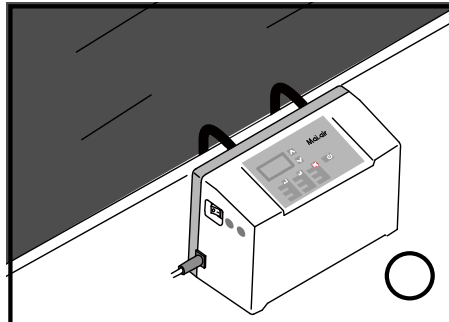


Step 3: Hang up the **Mai.air** pump over the frame or board at the foot end of the bed. Or, put **Mai.air** pump on the ground under the bed. Make sure the pump is upright and secured.



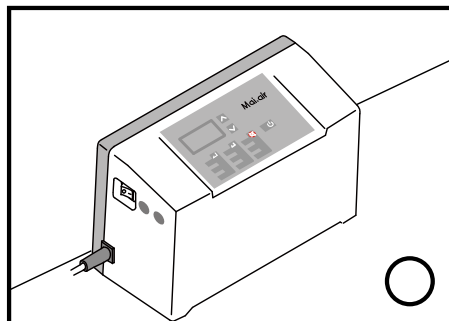
CAUTION:

CORRECT INSTALLATION of *Mai.air* pump properly placed by the following figures



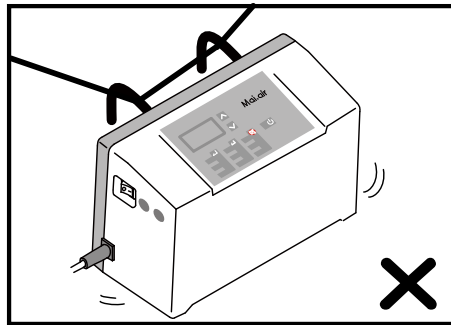
Correct:

Use the hanger to hang **Mai.air** pump over the frame



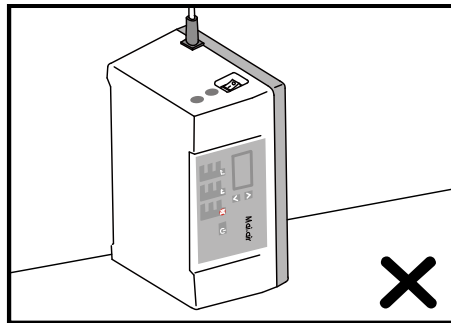
Correct:

Put **Mai.air** pump on the ground under the bed. Make sure the pump is upright and secured.



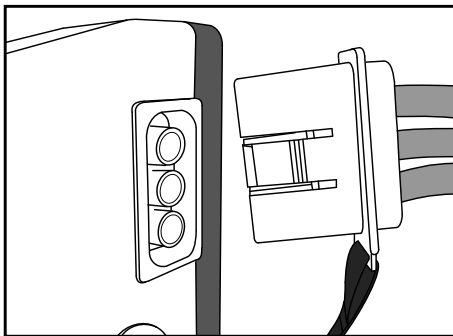
Wrong:

Do not hang **Mai.air** pump on the wire or unstable place.



Wrong:

Do not put **Mai.air** pump upside down or sideways.



Step 4: Connect the quick connector with **Mai.air** pump till the “click” sound heard.



CAUTION:

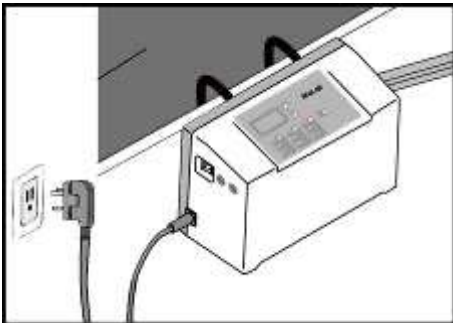
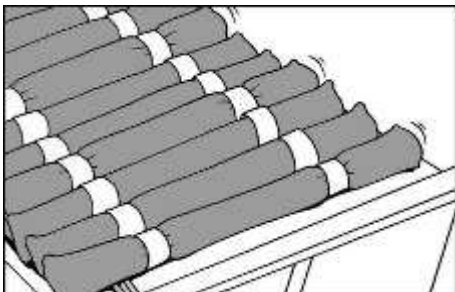
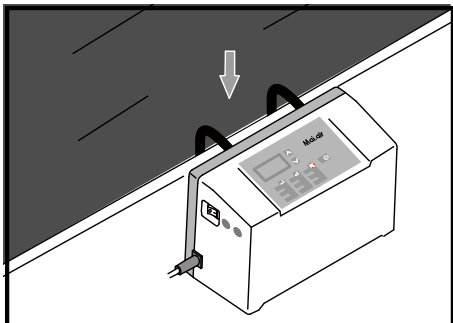
- 1. Way to pull out the quick connector: 1) use the thumb and index finger from the right hand to gently press both ends' grooves, 2) to hold **Mai.air** pump from left hand at the same time.**
- 2. Without properly removing the quick connector by pressing both ends' grooves and hold **Mai.air** pump 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.**

Step 5: The power cord of **Mai.air** pump is connected to the household main (220V) power supply



CAUTION:

Before you plug in power cord into the outlet, make

	<p>sure the voltage is compatible.</p> <p>Step 6: Turn on the power switch in the right hand side of Mai.air pump to light up the green [power indicator]. Mai.air pump is in standby. Users press the [power indicator] and LED panel shows figures. Mai.air pump boots.</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 Press the indicator to select weight, corresponding to user's body weight. LED indicator shows user's weight. Mai.air 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 bedsore 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


Mai.air pump's "Power Saving Mode" is controlled by a 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, **Mai air** pump automatically detects of insufficient air pressure from the cells and then starts inflation.

Mai.air pump - Operation Instruction

【Alternating Mode】

STEP 1 :

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

Users press the power indicator and the LED panel shows figures. **Mai.air** is in boot state.

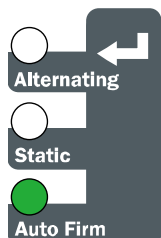
STEP 2 :



Press **【Weight Indicator】** to select the weight, corresponding to a



user's body weight.



STEP 3 : Select **【alternating】**

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

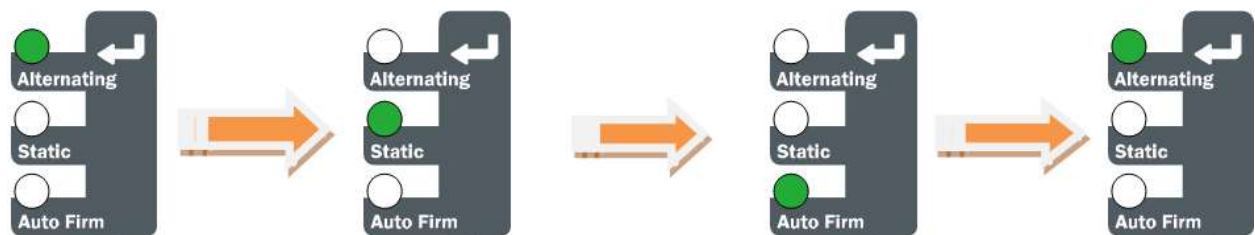
If the air pressure from the cells reaches the Default High Air Pressure limit, the pump will switch to **【Alternating】** automatically.

【Static Mode】

STEP 1 : Select **【Static】** while the *Mai.air* is **8** in **【Alternating】** mode

Note 1: *Mai.air* pump automatically distributes the airflow to fully inflate the cells up to 65% of air pressure. Each cell is inflated at moderate hardness to provide users with the 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 8 hours of being in “static”. Because of poor decompression of skin during sleep, please carefully set this mode of operation.

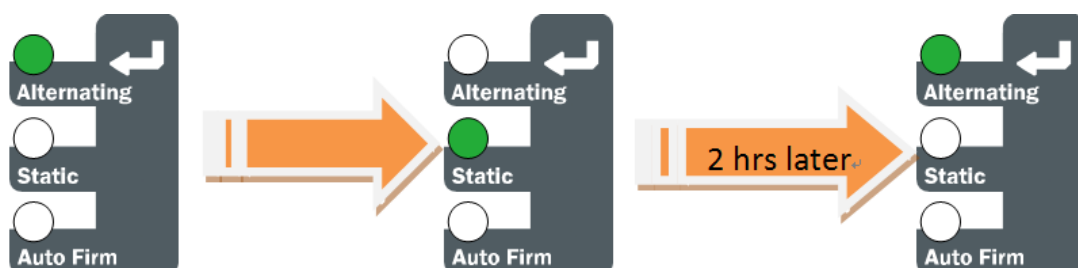


STEP 2 : Select **【Alternating】** when *Mai.air* working in **【Static】** mode

Mai.air 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 *Mai.air* 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: *Mai.air* 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 the nursing carer's convenience for taking shower or feeding the user.

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


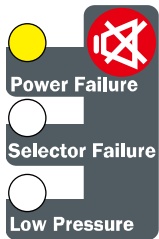

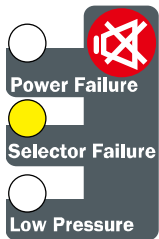


II . To prevent the bedsores get worse or the occurrence of bedsores and pressure ulcers, the pump will automatically switch to 【Alternating Mode】 after 1 hour of being in “Static” mode.

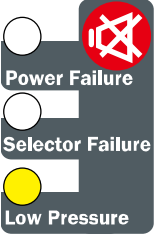
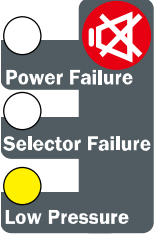




STEP 2: Select 【Alternating】 when *Mai.air* working on 【Auto Firm】

Mai.air pump will be switched to 【Alternating】 Mode with no delay.

Troubleshooting

When **Mai.air** pump functions properly, no LED light of failure on the panel will light up. If one of failure LED lights is 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 on the left of the pump.
	Motherboard Failure	Please contact with the distributors.
【power failure】 Yellow lights up 	Unable to power mains (AC220V / 50Hz)	1. Press  to turn off the buzzer. 2. Check if the outlet supply is normal and/or if there is a mains power outage. 3. Check if the host power cord plug is loose.
【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.
【low pressure】 Yellow lights up.		1. Press  to turn off the buzzer. 2. Check up if the black rubber oil

	<p>Air leak of the quick connector</p>	<p>seal from the quick connector is broken.</p> <ol style="list-style-type: none"> 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 tubes by the side of mattress
<p>【low pressure】 Yellow lights up.</p> 	<p>Air leak of tubes by the side of mattress.</p>	<ol style="list-style-type: none"> 1. Press  to turn off the buzzer. 2. Check up if tubes are broken. 3. Check if tubes well connected with the tubes of mattress
	<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>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 tubes by the side of mattress
	<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

Maintenance

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

Mai.air pump

- ▶ DO NOT immerse or soak the pump which will cause **Mai.air** badly damaged
- ▶ Place the pump on a work surface and spray or wipe the outside of the case with quaternary ammonium solution. (If the 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 airflow and air pressure of **Mai.air** pump.

Air mattress

- ▶ Washing with warm water below +25°C and low irritating detergent per week at least, in order to safeguard the health of users.
- ▶ Dry the mattress in a SUNLESS area after cleaning. Do not use a dryer to dry the cover. This will easily lead to the separation of the composition of the cover which affects the normal functions of waterproofing and air permeability.
- ▶ Wash the cover immediately and clean up the contamination once the 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 feel comfortable, it is recommended to replace the cover when it is broken or washed more than 20 times.

Handling and Storage

Mai.air pump

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

Air mattress

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

IMPORTANT SAFEGUARDS

DANGER

To reduce the risk of operation

- ▶ Before using **Mai.air** 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 in 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 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 the national requirement.
- ▶ The users take a sponge bath or shower on the mattress, please set **Mai.air** 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 user manual. It may cause the users or the equipment to fall down without following the installation of the user manual
- ▶ Do not disassemble the device by non-authorized repair professionals.

WARNING

- ▶ This equipment is strictly prohibited in combination with other devices, in order to avoid the risk of improper operation.
- ▶ Do not use 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 a 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 outdoors.
- ▶ This equipment is strictly prohibited from sharp objects or nearby hairpins metal jewelry or needles, to avoid the risk of the mattress being broken.

Consumption of Parts **FUNCTION** and **PROPOSED**

PARTS	FUNCTION	Recommended replacement time
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 cell 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.
Tubes by side of the mattress	Maintenance cells airtight	Replace 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.

MEMO

MEMO

***Mai Air*[™] Surface Support System**

2-Year Limited Warranty

SINGA TECHNOLOGY CORPORATION covers any defects in materials or workmanship of the Mai Air Surface Support System, under normal use and specified conditions, for a period of two years from the date Mai Air 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 SINGA TECHNOLOGY CORPORATION. You must return the warranty registration card, attached to this brochure within thirty days of purchasing. We will not require the original sales ticket if you or the previous owner, have completed and returned the warranty registration card, 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.

SINGA 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. SINGA 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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