

# TABLE OF CONTENTS

TABLE OF CONTENTS .....	1
STATEMENTS & SYMBOLS .....	2
Note, caution, warning & danger statements .....	2
Others .....	2
INTRODUCTION .....	3
General .....	3
Intended Use .....	3
Contraindication.....	3
PACKAGE CONTENT .....	4
Pump.....	4
Mattress .....	4
Cover Sheet .....	4
Manual .....	4
PRODUCT FUNCTIONS .....	5
Pump.....	5
Mattress .....	7
INSTALLATION .....	8
GROUNDING INSTRUCTIONS.....	9
Disconnection of the Device.....	9
OPERATION .....	10
General .....	10
CPR function .....	14
Pressure set up .....	14
Low pressure warning.....	14
CLEANING.....	15
Pump.....	15
Mattress .....	15
HANDLING AND STORAGE.....	16
MAINTENANCE .....	16
General .....	16
Low pressure.....	16
DISPOSAL OF THE UNIT.....	17
TROUBLESHOOTING.....	17
SPECIFICATIONS .....	18
System .....	18
Manufacturer information.....	19

# 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:



**Protective earth (ground)**



**Type B equipment**



**Attention! Consult accompanying documents.**

# INTRODUCTION

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

## *General*

The SELECT 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 SELECT 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 SELECT 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:

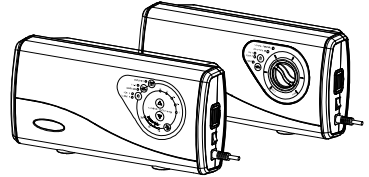
- ▶ Cervical or skeletal traction
- ▶ Unstable spinal cord injuries

# 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 base sheet and foam side rails.

For cell height of more than 8 inches, a foam base is not a must.



## *Cover Sheet*

\*Optional  
The cover sheet makes cleaning an easy task.



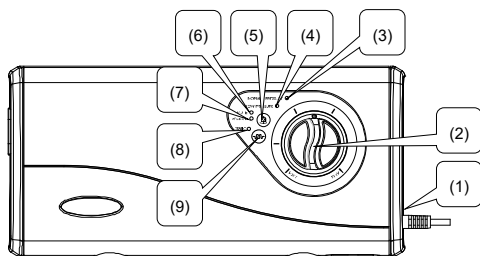
## *Manual*

Always read this manual before using this product.

# PRODUCT FUNCTIONS

## *Pump*

The functions of the SELECT series pumps are described below. Please refer to the figures of each type.



## **S11 & S12**

1. Power Switch
2. Pressure-adjust Knob
3. Normal Pressure Indication
4. Low Pressure Indication
5. Mute key
6. Mute Indication
7. Power Fail Indication
8. Static Indication
9. Static/Alternating Control

### ► **Power Switch (1)**

The switch is at the lower 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 Indication (3)**

A visible Indication (green) tells the pressure has reached the preset level.

### ► **Low Pressure Indication (4)**

A visible Indication (yellow) warns the pressure is below the preset level accompanied with the audible alarm – intermittent beep tones.

### ► **Mute (5)**

When the pressure gets too low or when the power is turned off or disconnected, a visible alarm will flash to attract attention, and an audible alarm will be heard. To mute the alarm, press the Mute (5) key. Re-press the Mute (5) key to reactivate the audible alarm.

*Remark: If the Mute (5) key is pressed during normal operation, the MUTE mode will be activated and the Mute Indication (6) will be on.*

### ► **Mute Indication (6)**

This visible alarm (yellow) gets on when MUTE mode is activated.

### ► **Power Failure Indication (7)**

A visible Indication (red) warns the power is switched off or disconnected accompanied with the audible alarm – intermittent beep tones.

### ► **Static Indication (8)**

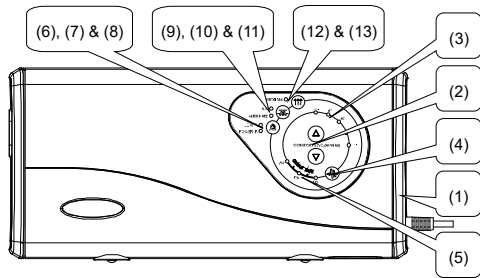
This visible Indication (yellow) gets on when the Static mode is set, and is off when the Alternating mode is in operation.

### ► **Static/Alternating Control (9)**

Press to set the air mattress either in Static mode or Alternating mode.

## S21 & S22

1. Power Switch
2. Easy-press Pressure Range
3. Pressure Indication
4. Easy-press Cycle Time
5. Cycle Time Indication
6. Mute/Reset
7. Low Pressure Indication
8. Power Failure Indication
9. L.A.T./Alternating Control
10. L.A.T. Indication
11. Alternating Indication
12. Auto Firm
13. Auto Firm Indication



### ► Power Switch (1)

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

### ► Easy-press Pressure Control (2)

Five pressure levels are offered from the panel (10, 20, 30, 40 and 50) providing options of pressure value by easy press.

### ► Pressure Indication (3)

A set of five LED (green) shows the current pressure range.

### ► Easy-press Cycle Time (4)

Alternating cycle time is selectable 10, 15 Or 20 minute from the panel by easy press.

### ► Cycle Time Indication (5)

A set of three LEDs (green) show the current alternating cycle time.

### ► Mute/Reset key (6)

When the pressure gets too low or when the power is turned off or disconnected, a visible alarm will flash to attract attention, and an audible alarm will be heard. To mute the alarm, press the Mute (6) key. Re-press the Mute (6) key to reactivate the audible alarm.

### ► Low Pressure Indication (7)

A visible Indication ( ) warns the pressure is below the preset or user defined level accompanied the audible – a long beep tone.

### ► Power Failure Indication (8)

A visible Indication (red) warns the power is switched off or disconnected accompanied with the audible alarm – intermittent beep tones.

### ► L.A.T./Alternating Control (9)

Press to set the air mattress either in L.A.T. (Static) mode or Alternating mode.

### ► L.A.T. Indication (10)

This visible Indication (yellow) gets on when the L.A.T. (Static) mode is set.



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

► **Alternating Indication (11)**

This visible Indication (green) gets on when the Alternating mode is set.

► **Auto Firm (12)**

Press to set the air mattress in quick inflation mode, which facilitates nursing and caring.

► **Auto Firm Indication (13)**

This visible Indication (yellow) gets on when the pump is in Auto Firm mode.

## ***Mattress***

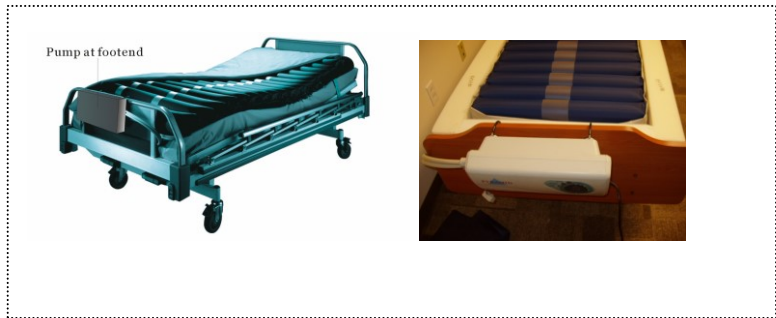
The SELECT series comes with cell type mattress of different materials (Nylon/PVC or PU), provided optionally with the pump.

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. See figure below for reference.



Step 2 ► Cover the mattress with a cotton sheet to avoid direct skin contact and reduce friction.

Step 3 ► Hang the pump over the frame or board at the foot end of the bed. Make sure the pump is secured. It is also possible to place the pump vertically on the table, but it is not recommended unless it is not possible to hang the pump on the bed.

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, and the power switch is at OFF "O" position. Proceed to the Operation section.

Step 7 ► Be sure to unplug the pump when it is not in use.

# GROUNDING INSTRUCTIONS

This product should be grounded, and is equipped with a cord that contains a grounding wire with a grounding plug.

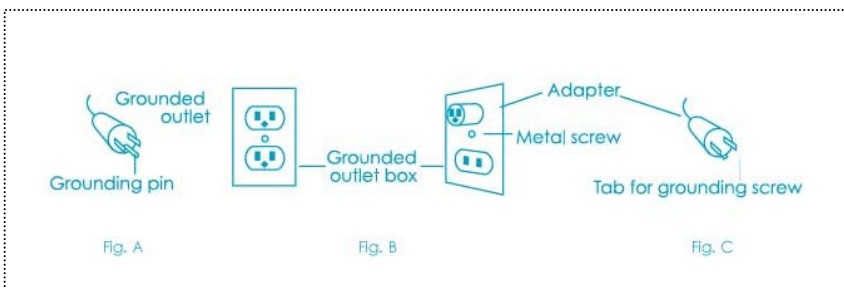
**DANGER** – Improper use of the grounding plug can result in a risk of electric shock.

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.

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.



## *Disconnection of the Device*

Always disconnect the device by pulling the power cord plug off the power outlet under all sorts of emergencies.

# OPERATION

## *General*

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

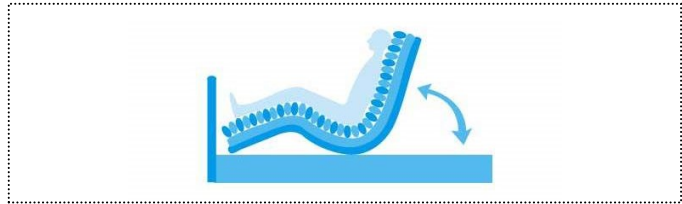
**For products:** DO NOT use another pump with different specifications or even from the SELECT series. It is dangerous to use a pump with pressure capacity greater than 120 mmHg. This may result in cell-puncture.

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

**For patients:** When the Normal Pressure indicator (green) comes on to indicate that the pressure has reached a desired level of firmness and the mattress is ready for use.

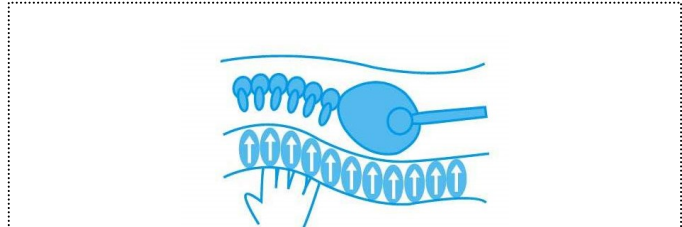
Please cover the mattress with a cotton sheet to avoid direct skin contact and for the patient's comfort.

A firm surface will make it easier for the patient to transfer or reposition. Make use of the Static mode function. The Static mode prevents the patient from bottoming out when in a sitting position. See the figure below.



**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.

## **S11 & S12**

Step 1 ► Turn on the power. The indicator of the power switch will come on.

The pump starts to pump air into the mattress.

The Low Pressure indicator (yellow) will come on as inflation undergoes, and the audible alarm is activated to alert that pressure is low.

Press the Mute (5) key to mute the audible alarm. The Low Pressure indicator will continue flashing until the pressure reaches the preset level.

### **NOTE !**

**For first inflation, we recommend that you press both the Mute (5) key and Static/Alternating Control (9) key to enter a quick and silent operation.**

Step 2 ► When the pressure reaches the level preset by the factory in approximately 30~45 minutes, the Normal Pressure indicator (green) will come on, and the Low Pressure indicator (yellow) will go off.

### **NOTE !**

**If the Low Pressure indicator (yellow) won't go off, please refer to page 17 for troubleshooting.**

Step 3 ► Turn the pressure-adjust knob (2) to set a comfortable pressure level from soft to firm. (Pressure range: 20 ~ 60 mmHg).

### **NOTE !**

**For optimal pressure, please refer to page 10 for the hand check procedure.**

Step 4 ► The pump is preset in alternating mode and the cycle time is set 10 min. at 60Hz. (or 12 min. at 50Hz)

Press the Static/Alternating Control (9) key to set the pump in Static mode, and the Static indicator (yellow) will come on. The Static mode will be activated within 6 minutes. Press the Static/Alternating Control (9) key again the pump will 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.**



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

## **S21 & S22**

Step 1 ► Turn on the power. A beep sound will begin the operation.

Step 2 ► The pump will carry out the warm up when the power is turned on. After warm up, the pump will inflate the whole mattress up to 12 mmHg in Static mode and then it will inflate the mattress to 30mmHg in alternating mode. The pump is preset for Alternating mode with 15 minutes cycle time.

If the pressure of 12 mmHg cannot be reached within 45 minutes, the audible alarm will beep and the Low Pressure indication will light up.

Press the Mute (5) key to mute the alarm, and the Low Pressure indication will flash instead of being consistently on.

### **NOTE !**

**If the audible/visible alarm won't go off after restarting, please refer to page 17 for troubleshooting.**

Step 3 ► The alternating cycle time and pressure level are preset with moderate values. Press to select from the panel a desired cycle time and pressure level.

### **NOTE !**

**For suitable pressure, please refer to page 10 for the hand check procedure.**

Step 4 ► To switch to L.A.T. (Static) mode, press the L.A.T./Alternating Control (9) key and the L.A.T. indication ((10) will come on. Press the L.A.T./Alternating Control (9) key again will switch the pump back to Alternating mode.

### **NOTE !**

**In L.A.T. (Static) mode, the mattress provides a firm surface that makes it easier for the patient to transfer or reposition. The L.A.T. (Static) mode prevents the patient from bottoming out when in a sitting position.**

### **NOTE !**

**The pump returns to ALTERNATING mode automatically 2 hour after it is set L.A.T. (Static) mode to ensure that the patient is always in the best comfort.**

### **NOTE !**

**When the pump is in L.A.T. (Static) mode, it is only possible to increase the pressure but not to decrease the pressure in the mattress.**



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

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. The pump will stop when the user-defined pressure level is reached.

If the pressure is consistently low, the audible alarm will sound and the Low Pressure indication (7) will light up to attract attention to a low pressure condition.

If there should be obvious leakage, for example caused by loose connection of tubes, the audible/visible alarm will be activated.

Press the Mute (5) key to mute the alarm, and the Low Pressure indication will flash instead of being consistently on.

Step 6 ► For nursing and caring convenience, press the Auto Firm (12) button to automatically inflate the mattress to the maximum level (above 50 mmHg) for about 30 minutes. The pressure will return to a previously user-defined level after 30 minutes.

In case there is a bad connection of tubing or any air leakage from the mattress, it will result in a low pressure condition, and the audible/visual alarm will be activated.



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

## ***CPR function***

When there is an emergency to perform CPR on the patient, pull the CPR strap immediately 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. The audible alarm will be activated to attract 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 leakage (in tubes or connecting hoses). If necessary, contact your local dealer to replace the damaged tubes or hoses.**

# CLEANING

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

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

## *Pump*

- ▶ Clean up the pump at least once a week, and check for breakage at the same time.
- ▶ 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 wipe the outside of the case with cleaning 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.
- ▶ Spray cleaning solution on a piece of cloth and clean faceplate with the cloth. Make sure all areas are clean (top and bottom, both sides). 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.

## *Mattress*

- ▶ Clean the mattress cover weekly and the cells and the base monthly following the instructions described at below.
- ▶ 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 off 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. (Be 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.
- ▶ Dry the mattress on a SUNLESS area after cleaning.

# HANDLING AND 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.
- ▶ Storage temperature: 5°F ~122°F (-15~50°C)
- ▶ Storage humidity: 10%~90% non-condensing
- ▶ Transportation temperature: 5°F ~158°F (-15~70°C)
- ▶ Transportation humidity: 10%~90% non-condensing

# 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.
- ▶ Check and clean up the air inlet filter at least once every 3 months.

## *Low pressure*

Check 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.

# DISPOSAL OF THE UNIT



- ▶ Follow the national requirement to dispose the unit.

## TROUBLESHOOTING

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. Check if the fuses are good. If not, replace the fuses.</li><li>3. 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> <p><b><u>NOTE !</u></b> <b>Be sure to unplug the pump before checking fuses. It is recommended to use only UL/CE certified fuses.</b></p>
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 if the tubes are twisted or if there is any leakage.</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 pump at least once a month.</li></ul>

# SPECIFICATIONS

## System

Item	Specifications
Classification	Class I; IPX0; AP/APG NO; Type B 
Applied Part	Mattress
Input Rating	AC 120V 60Hz, 1A
Fuse Rating	250V, 1A
Air Output	8 Liter/min for S11 & S21 13 Liter/min for S12 & S22
Pressure Range	20 ~ 60 mmHg for S11 & S12 10 ~ 50 mmHg for S21 & S22
Cycle Time	10 min. for S11 S12 10, 15, 20 minutes selectable for S21 & S22
Dimensions (Pump)	40 × 14 × 20 cm (15¾ × 5½ × 8 in)
Weight	3.0 kg (6.6 lbs) for S11 & S21 3.6 kg (7.9 lbs) for S12 & S22
Environment Requirements	<ul style="list-style-type: none"> <li>▶ 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)</li> <li>▶ Humidity: Operation 20%~80% non-condensing Storage 10%~90% non-condensing</li> </ul>
Safety Standards	 <p><b>MEDICAL EQUIPMENT WITH RESPECT TO ELECTRIC SHOCK, FIRE AND MECHANICAL HAZARDS ONLY IN ACCORDANCE WITH UL 2601-1, AND CAN/CSA C22.2 NO. 601.1</b></p>

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

### **NOTE !**

The above specifications are 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 with oxygen or nitrous oxide.

Type B 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.

# MANUFACTURER INFORMATION



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