OWNER'S MANUAL

PressureGuard® APM^2
Safety Supreme

SPAN America
Innovative Solutions.

Span-America Medical Systems, Inc.

P10074 R2, CO# 2619

TABLE OF CONTENTS

Document Symbols

This manual contains different typefaces and symbols to make the content easier to read and understand:

- Standard text – used for regular information.
- **Boldface text –** stresses a word or phrase.
- **NOTE:** - sets apart special information or important instruction clarification.
- The symbol below identifies a WARNING or CAUTION:

  - A WARNING identifies situations or actions that may have an effect on patient or user safety. Ignoring a warning could cause patient or user injury.

  - A CAUTION points out special procedures or precautions that persons must obey to avoid equipment damage.

- The symbol below identifies an ELECTRICAL SHOCK HAZARD WARNING:

EN 60601-1-2 Electromagnetic Emissions
IEC 60601-1 Electrical Safety

INTRODUCTION
PRESSUREGUARD® APM² Safety Supreme

Multi-mode air therapy with raised safety perimeter

DESCRIPTION: The system consists of a foam shell with a high-density foam topper serving as the support surface underneath the patient. The foam shell also includes raised foam bolsters at the sides of the mattress, providing added patient stability and positioning. The system also includes the unique Heel Slope™ feature, designed to further reduce pressure for the sensitive heel area. Within the foam shell is housed the inflation system, consisting of air cylinders which run lengthwise within the mattress. The air control unit connects to the mattress at the patient foot-end.

MODES OF OPERATION: The PressureGuard® APM² Safety Supreme provides options of alternating pressure, basic lateral rotation, power flotation and auto-firm.

INDICATIONS FOR USE: PressureGuard® APM^2 Safety Supreme models are powered, flotation therapy mattresses providing a pressure management surface for the prevention and treatment of pressure ulcers. The lateral rotation mode is indicated for use as a preventive tool against further complications associated with critically ill patients or immobility.

CONTRAINDICATIONS:

Not recommended for patients for whom rotation or turning is contraindicated, such as, but not limited to, unstable spinal cord injury, unstable skeletal fractures requiring immobilization and/or skeletal traction, physician orders prohibiting rotation, or severe posterior burns requiring skin grafts.

The PressureGuard APM2 Safety Supreme is not for use by those with unstable spinal cords. Patient injury could occur.

WARNING - To reduce the risk of electrocution
READ ALL INSTRUCTIONS BEFORE USING THIS UNIT.

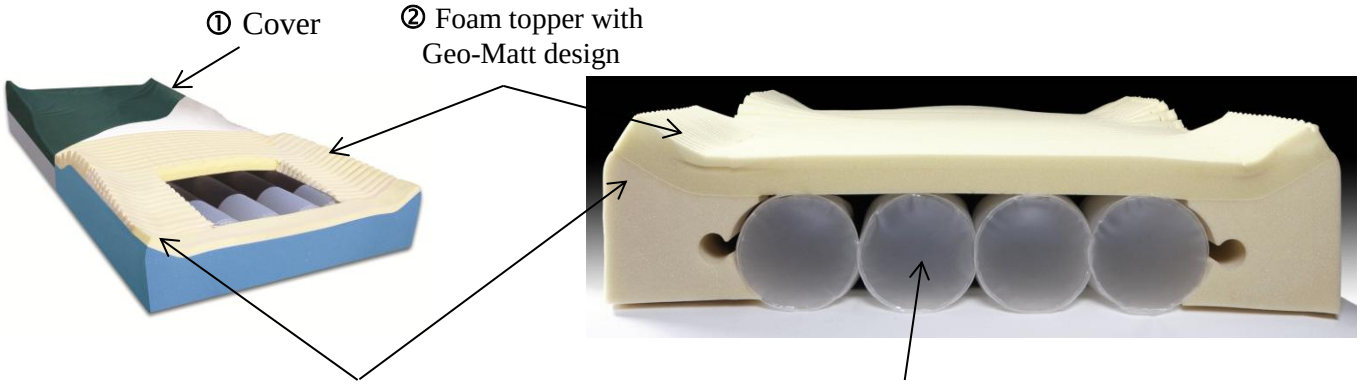
1. Always unplug this unit immediately after using.
2. Do not operate near water.
3. Do not place or store product where it can fall or be pulled into a tub or sink.
4. Do not place in or drop into water or other liquid.
5. Do not reach for a product that has fallen into water. Unplug immediately.
6. Use this unit only for its intended use as described in the operating instructions.
7. 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. Contact Span-America Medical Systems, Inc., for return of Control Unit for examination and repair.
8. Keep the cord away from heated surfaces.
9. Never drop or insert any object into any opening or hose.
10. Do not use outdoors.

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

1. Use this unit only for its intended use as described in the operating instructions.
2. 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 unit to Span-America Medical Systems, Inc. for examination and repair.
3. Keep the cord away from heated surfaces. Discontinue use if power cord is damaged or worn.
4. Never drop or insert any object into any opening or hose. Keep away from sharp objects.
5. Do not use outdoors.
6. Possible explosion hazard if used in the immediate proximity of flammable gases (risk of explosion).
7. Use only original spare parts and consumables.
8. Keep power cord away from heated surfaces.
9. Plug this product into a correctly grounded outlet only.
10. Before cleaning, unplug unit from its power source. Failure to do so could result in personal injury or equipment damage.
11. Do not use harsh cleansers, solvents, or detergents. Do not expose the unit to excessive moisture. Equipment damage could occur.

Warning: This product contains/may contain chemicals known to the state of California to cause cancer and/or birth defects or other reproductive harm.

Construction and Design Features



⑤ Mattress toggle switch

⑥ Control unit

Construction and Design Features

Illustration Descriptions

The air-cylinder inflation system and the foam shell work in concert to maintain low interface pressures throughout the surface, making mattress effective for prevention and treatment of pressure ulcers.	
Cover [Illustration item ①]	The bacteriostatic top fabric is fire resistant, fluidproof, tear resistant, cleanable, and replaceable. The pleated design allows full integration with the mattress's Geo-Matt® style shear-relieving surface while minimizing hammocking. ***Also available with Silver3® silver-infused stretch fabric***, a proprietary fabric technology that protects surface from stains, odor-causing bacteria, mold and mildew.*
Foam Topper: [Illustration item ②]	The Geo-Matt® style foam topper is a high density, medical grade foam. The unique geometric design consists of over 800 individual cells, each of which acts individually to redistribute pressure, to reduce heat and moisture buildup on the skin, and to reduce shear to underlying tissues. This foam topper is 2" in height and includes the unique Heel Slope™ feature, designed to further reduce pressure for the sensitive heel area.
Raised Perimeter Bolsters [Illustration item ③]	Exclusive safety perimeter incorporates the unique "edge-to-edge" design to help prompt user away from edge of bed without compromising skin integrity.
Air Cylinders: [Illustration item ④]	The inflation system consists of four urethane air cylinders in standard models that run head to foot underneath the body and the foam topper. These cylinders perform the alternating pressure therapy, and the lateral rotation therapy. Cylinders inflate and deflate in a fixed 10-minute cycle. The cycles and inflation levels are designed to provide and maintain low interface pressures throughout the mattress, and to redistribute peak interface pressure points during the alternating cycle.
Mattress Toggle Switch [Illustration item ⑤]	The toggle switch changes modalities from alternating pressure to lateral rotation. The switch is located under a velcroed fabric flap on the side of the mattress at the foot end.
Control Unit: [Illustration item ⑥]	Model 5900 Digital Control Unit

*Silver3® is a registered trademark of Dartex Coatings, Ltd.

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Uses Smith & Nephew Extruded Films technology www.snef.co.uk • email: snef@smith-nephew.com • Tel: +44 1430 440 757

DIRECTIONS FOR SET-UP

1. Place the Safety Supreme mattress on the bed frame with the airline connectors at the foot end of the bed. Mattress has a gray vinyl side that should be down on the bed frame, and a green or silver fabric side that should be face up toward the patient. Confirm that the bed frame is appropriate for use with the mattress, and that the length and width of the mattress are appropriate for the frame. Place directly on a healthcare bedframe only, never on top of another mattress.

WARNING: The fit of the mattress to the bed frame is important. Minimizing spaces or gaps between the mattress and frame will help prevent patient entrapment issues.

2. Hang the control unit on the foot board at the end of the bed using fold-out hangers (Figure A). Connect airlines to control unit by pressing quick connector into port on the side of unit. "Triangle" symbol should face front. (Figure B) Audible "click" indicates secure connection.

Figure A

Figure B

Note: If desired, hanger lock strip (included, item # P10064, Fig. C) can be used to help hold control unit more snugly in place on thin footboards such as those often found on home health care beds. To use, place the strip in position around the hanger hooks as shown in Figure D.

Figure C

Figure D

3. Connect the ends of the air lines with two right angle male connectors (Figure E) to the ports on the side of the mattress. Ports (Figure F) are located beneath a fabric flap (Figure G) near the right front corner of the mattress. Ensure that the airlines are not kinked or twisted. Press connectors into ports until you hear an audible "click" for each. Press flap closed.

Figure E

Figure F

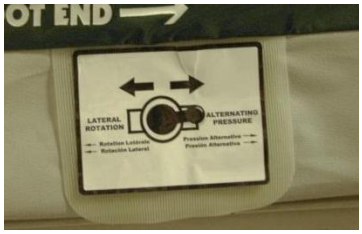


Figure G

4. Ensure that the Toggle switch is in the "Alternating Pressure" position.

5. Ensure that green On/Off switch at side of control unit is "Off". Plug power cord into wall outlet. Press On/Off switch "ON".

Never thread airline through mechanical parts of the bed or bed rails where normal bed movement may damage the airlines, power cord or the control unit itself. Check to be sure the motion of the bed does not interfere with the airlines, power cord or plug.

Always plug the power cable securely into the wall outlet. Make sure the wall-mounted outlet will accommodate a heavy duty or hospital-grade plug and that the outlet is in good working order. The plug of the power cord should fit tightly into the wall outlet. The plug body, the wall outlet, and the wall plate should not be cracked or chipped. The plug blades should be securely retained in the plug body. The ground pin of the plug should be intact and secure.

Do not connect the power cord to an extension cord or to a multiple outlet strip. If the use of extension cords or multiple outlet strips cannot be avoided, use only heavy duty or hospital-grade connectors that are approved by the facility engineering department. Multiple outlet strips should be mounted on a fixed object to reduce the risk of liquid spills and physical damage. In addition, if multiple-receptacle outlet boxes are used, they also should be protected from the risk of liquid spills and physical damage. All extension cords and multiple outlet strips should be tagged and inspected routinely.

Do not cover the power cord with a rug or carpet. Rugs or carpets can prevent normal air flow, which can lead to greater heat built-up. Place the cord in a low or no traffic area. Check to be sure the motion of the bed does not interfere with the bed's power cord or plug.

6. When power switch is turned to ON, the unit will power up in "Auto Firm" mode and begin performing a system check. This fills the air system completely, in order to confirm the proper connection and function of both the mattress and the control unit prior to a patient being placed on the surface. If the mattress is completely empty of air, this can take as long as 20 minutes. Since this is rarely the case, however, this typically takes no more than 2.5 minutes.

7. System will remain in “Auto Firm” mode until this process is complete. “Low Pressure” indicator light and audible alarm will remain on as well. Audible Alarm can be disengaged during this process by pressing the Audible Alarm On/Off button.

8. When system check is complete, the control unit will revert to previous comfort setting and “Alternate” mode. Low Pressure indicator light will turn off. System is now ready to be set for the next user.

   NOTE: If “Low Pressure” remains on after 30 minutes, call for service.

5900 Control Unit
Functions

Comfort Level Selection:

Allows selection of air cylinder firmness within a relatively small range. Press "Softer" or "Firmer" button to achieve desired setting. Begin in softest setting, then adjust for comfort as desired.

Mode Selection: *Press button to select "Alternate", "Float", or "Auto Firm".*

"Alternate" mode: Creates an "A-B" sequence of inflation and deflation of the mattress's four air cylinders designed to change loading across the surface in a 10-minute cycle. **Use the toggle switch on the side of the mattress to select between two patterns of alternation:**

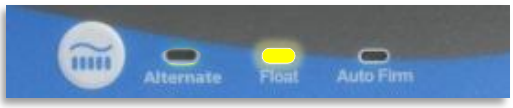
Pictured: Mattress toggle switch set to "Lateral Rotation"

Lateral Rotation therapy: With mattress toggle switch set to "Lateral Rotation", two air cylinders on one side inflate, while the two on the opposite side deflate, gently rotating the patient approximately 20 degrees to one side. After approximately 5 minutes, the inflation pattern reverses and the patient is rotated to the opposite side.

Pictured: Mattress toggle switch set to "Alternating Pressure"

Alternating Pressure therapy: With mattress toggle switch set to "Alternating Pressure", air cylinders 1 and 3 inflate while 2 and 4 deflate. After approximately 5 minutes, the pattern reverses.

5900 Control Unit
Functions Continued



"Float" (powered flotation therapy) mode: Suspends cyclical inflation/deflation of the air cylinders and instead provides powered flotation therapy. In this mode, all four air cylinders are evenly inflated, and the system maintains ideal pressure management by adjusting in response to any repositioning of the user on the surface.

"Auto Firm" mode: Suspends cyclical inflation/deflation and sets system to firmest inflation level for 20 minutes to facilitate user transfer, feeding, dressing changes, and other activities of daily living (ADLs), and CPR. After 20 minutes, system will revert to previous comfort setting and "Alternate" mode.

Power Failure and Low Pressure Alarms:

Audible Alarm On/Off: When indicator light is on, an audible alarm will sound if either the Low Pressure or Power Failure indicator light is on. Press button to silence the alarm. Alarm can also be toggled off in advance if audible alarm is not desired for low pressure conditions.

Power Failure:
During power failure situation or upon power down, the Power Failure indicator light will come on and the audible alarm will sound. Press the mute button to silence the alarm. (See "Power Loss", page 12)

Low Pressure:
If "Low Pressure" indicator light comes on after initial set-up or when moving mattress or control unit, first check that all airlines are properly connected and that they are not kinked. If light is still on after 30 minutes, call for service.

ELECTROMAGNETIC OR OTHER INTERFERENCE – see Appendix on page 22.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device.
- Increase the separation between the equipment.
- Connect the equipment into an outlet on a circuit different from that to which the other device(s) are connected.
- Consult the manufacturer for help.

POWER LOSS / PATIENT TRANSPORT:
To seal air into mattress, simply disconnect the quick connector from the control unit, and place "transport" cap into place on connector (Figure A). Press cap into place until you hear a "click", which confirms that the airlines are sealed. With the transport cap in place, all the air is sealed into the mattress. In this mode, the cylinders will distribute air evenly among the four cylinders, providing an even, static air surface to protect the user's skin until power is restored.

Figure A

WARNING: DO NOT MOVE USER ON MATTRESS ONLY.
Mattress should not be used alone for user/patient transport.

HEAD-OF-BED ELEVATION: All support surfaces using air as a support medium are designed for distributing pressures over the body in a flat, horizontal position. Bending the support surface and the body at the midpoint when elevating the HOB concentrates the body weight over the center of the surface, stressing that small area. This extreme change in dynamics creates a challenge for all air support surfaces. Maximum pressure management benefits are realized between zero and 30 degrees HOB elevation. Beyond 30 degrees, the amplitude of the changes in the air cylinders begins to decrease in proportion to the increased elevation of the HOB. Although the mattress will maintain its support and therapeutic capabilities up to and including 70 degrees HOB, for maximum benefit we recommend that any pressure management surface be used with the head of the bed elevated as little as possible, and for limited periods at a time.

WARNING: Lateral rotation mode should not be used with head of bed elevated beyond 30 degrees. Instead, select alternating pressure or powered flotation (float) mode. With HOB elevated, the alternating pressure mode can facilitate maximum pressure management effectiveness while minimizing the possibility of patient falls.

TROUBLESHOOTING PATIENT COMPLAINTS: Occasionally a patient will complain of feeling as if they are "sinking into a hole".

1. Sometimes this happens when the head of the bed is elevated and the mattress is in either lateral rotation or alternating pressure. This sensation is a combination of the deflation of the cylinders during their cycle and the increased weight of the patient on the sacrum and pelvis when the head of the bed is elevated. This demonstrates the need to minimize elevation of the head of the bed. To improve this situation decrease elevation of the head of the bed.

2. Often patients complain when they are supine or side-lying and are not used to the changing pressures within the air system. Reassure the resident that this is normal functioning, as the cylinders alternately inflate and deflate. The "deflated" tubes are not fully deflated. Some air is always maintained in them to prevent bottoming out. After reassurance, patients get used to the changing pressures.

GENERAL DIRECTIONS

BED LINENS: Use flat sheets, knitted stretch-fit sheets, or deep-pocket fitted sheets. Multiple layering of linens or underpads beneath the patient should be avoided for the prevention and treatment of pressure ulcers.

CAUTION: Be careful not to puncture the mattress with needles or sharp instruments. This may result in loss of integrity of the cover or internal air system. Regularly inspect the mattress cover for cuts, rips, cracks or tears. Do not use the mattress if the cover is damaged.

INCONTINENCE PADS: Pads specifically designed for use with alternating pressure mattresses are recommended.

BED RAILS: Due to concerns over the possibility of patient entrapment, Span-America recognizes that the use of rails of any length is a matter currently addressed by federal and state laws/guidelines, and by individual facility protocol. It is the responsibility of the facility to be in compliance with these laws, which typically require that decisions on the use of bed rails of any type are based on assessment of the physical and mental status of each patient individually. If bedrails are needed by the patient to prevent fall-related injury, as determined by this facility assessment, we recommend that the bedrails be locked in the up position at all times. We do not require use of bedrails unless the patient is deemed to be safer with them than without them.

CPR: The Standards for Life Support recommended by the American Heart Association

for performing CPR recommend a hard level surface for performing CPR. This means moving the person to the floor if possible. For performing CPR:

1. Place a crashboard beneath the patient.
2. Select "Auto Firm" mode.
3. Follow CPR procedures
4. Re-select "Auto Firm" if necessary when system reverts back to previous setting after 20 minutes.

STORAGE AND TRANSPORTATION: Store the mattresses in a clean, dry place. Once the mattress is removed from the box, store in a flat position if possible. If mattress must be stored on its side, ensure that the inflation system is in correct position within the mattress prior to placing a user on the surface. Protect from damage. Avoid temperature extremes (below freezing or above 120°F). Allow to acclimate to room temperature before use. Do no stack more than 10 high. Do not stack other equipment on top of the mattresses.

Store the control unit in a clean, dry place, protected from accidental damage or falls. Avoid temperature extremes (below freezing or above 120°F). Do not stack other equipment on top of the control unit. For transportation, secure to prevent damage or falls. For shipment, use box and packaging as provided by the manufacturer.

ENVIRONMENTAL CONDITIONS FOR USE:

- Indoor Use
- Altitude up to 2000 meters
- Temperature 5 degrees C to 40 degrees C
- Maximum relative humidity 80% for temperatures up to 31 degrees C, decreasing linearly by 50 per cent relative humidity at 40 degrees C
- Mains Supply Voltage Fluctuation up to 10 +/-% of the nominal voltage
- Overvoltage Category II
- Pollution Degree 2

SERVICE: Return the control unit for repair or service to Span-America Medical Systems. Repairs to be performed by manufacturer only.
Call 800-888-6752, 8 am – 5 pm EST M-F.

WARRANTY: All models are unconditionally guaranteed against failure due to manufacturing defects under normal use for 18 months.

USE IN WOUND CARE: Use of PressureGuard® APM² models is only one element of care in the prevention and treatment of pressure ulcers. Frequent repositioning, proper care, routine skin assessment, wound treatment and proper nutrition are but a few of the elements required in the prevention and treatment of pressure ulcers. As there are many factors that may influence the development of a pressure ulcer for each individual, the ultimate responsibility in the prevention and treatment of pressure ulcers is with the health care professional.

CLEANING: For the mattress, only the cover requires cleaning and maintenance. Disassembly of the support surface for maintenance of internal components is not recommended. **Clean and disinfect mattress covers** following contamination with bodily fluids and between patients. The cover can be cleaned in place by wiping with neutral suds and lukewarm water. Rinse and allow to air dry for approximately 20-30 minutes before use. For hard to clean spots, use liquid cleaner with soft sponge in the concentration recommended by the manufacturer. DO NOT USE HARSH CLEANERS OR SOLVENTS.

For long-term incontinent applications, clean and disinfect cover daily. A scented cleaner/disinfectant is recommended. Iodophor type disinfectants (e.g. Betadine) will stain the fabric.

For disinfection, phenolic or quaternary type disinfectants are recommended. Disinfectants should be hospital grade (tuberculocidal). Follow manufacturer's instructions for use concentrations, contact times and rinsing.

Contamination with blood on the fabric can be disinfected with a 1:10 dilution of household bleach (5.25% sodium hypochlorite) as recommended by the CDC. The use of bleach at improper dilutions may result in fabric discoloration and fluid pass-through.

Where surveillance and epidemiology indicate ongoing transmission of *C. difficile,* an EPA registered hypochlorite-based disinfectant is recommended. Follow the manufacturer's instructions for use concentrations, contact times and rinsing. Generic sources of hypochlorite (e.g. household chlorine bleach) may also be used. Prepare the disinfection solution fresh daily at a 1:10 dilution. Improper dilutions may result in ineffectiveness and higher than recommended concentrations will damage the fabric.

Note: alcohol-based disinfectants are not effective against *C. difficile* and should not be used to disinfect environmental services. For further information relative to this organism and infection control in the healthcare setting, please refer to www.cdc.gov/ncidod/hip.

Do not puncture the mattress with needles or sharp instruments. This may result in loss of integrity of the mattress air system or top surface low air loss bladder, and will void the warranty. Inspect the covers and zipper area for signs of damage, puncture, or wear that could result in fluid pass-through. If the cover is stained, soiled, or torn, inspect the internal components for signs of contamination. If contamination is evident, quarantine the mattress and remove from service following infection control procedures.

If required, the air control unit can be cleaned and disinfected.

Disconnect air lines from control unit and use "transport" cap to seal air into mattress (see page 12). Turn unit off and unplug from wall before cleaning. Wipe down with using damp sponge or cloth that has been thoroughly wrung

out to remove excess liquid. Do not allow liquids to penetrate the user panel.

For cleaning, use neutral suds and lukewarm water. For disinfection, phenolic or quaternary type disinfectants are recommended. Disinfectants should be hospital grade (tuberculocidal). Follow manufacturer's instructions for concentrations and contact times.

ROUTINE INSPECTION OF POWER CORDS AND SAFETY TIPS TO PREVENT FIRES


1. Assure that the electrical resistance of the safety ground conductor and the level of leakage current (line conductor-to-safety ground and neutral conductor-to-safety ground) meet applicable standards for resistivity and leakage current. Protection afforded by the ground pin is negated if the receptacle is not properly grounded. If you have questions about the adequacy of your facility's building wiring, contact qualified electrician or consult the code authority in your jurisdiction.
2. Check all electrical outlets, including accessory outlets for cleanliness, physical integrity and functionality. The IEEE standard 602-1996, section 4.2.2 advises that hospital-grade outlets be used and that they should be mounted with the ground pin or neutral blade up to assure that any metal that may drop between the plug and the wall will most likely contact an unenergized blade.
3. Check the power cord to assure that contact pins are straight and secure
4. Routinely inspect the power cord for damage sustained from crushing, pinching, shearing, cutting, or from being worn through. They can be damaged by bed movement, deterioration from use or aging, or human or equipment traffic. The cord's insulation should be intact and there should be no evidence of bulging, stretching, crimping, cracking, or discoloration, especially at the ends, there the cord is attached to the plug body and the control unit
5. Regularly inspect as parts of the bed frame, motor, mattress and controller, and the floor beneath and near the bed for build-up of dust and lint.
6. Inspect the cover of the control panel to assure that the covering is not cracked or damaged, allowing liquids or other conductive material to penetrate to the switches.
7. Report any unusual sounds, burning odors, or anything unusual to maintenance personnel. Discontinue use of the power cord immediately and contact Span-America Medical Systems, Inc. for replacement.

Mattress

Inspect the covers and zipper area for signs of damage, puncture, or wear that could result in fluid pass-through. If the cover is stained, soiled, or torn, inspect the internal

components for signs of contamination. If contamination is evident, quarantine the mattress and remove from service following infection control procedures.

You may use the Preventive Maintenance Log provided on the last page of this manual to monitor and document regular inspection and maintenance of your Safety Supreme mattress and control unit.

SPECIFICATIONS

Cover: Bacteriostatic, flame resistant, fluid-proof, tear resistant

Foam: High-density open-cell polyurethane. Conforms to NFPA 101 small scale and Cal TB# 117.

Air cylinders: Urethane

Electrical: All control units 120 V, 60 H.

With respect to electric shock, fire and mechanical hazards only in accordance with UL 60601-1.

With respect to electric shock, fire, mechanical and other specified hazards only in accordance with CAN/CSA C22.2 No. 601.1 Medical equipment certified for Canada.

Dimensions & Model Numbers

All models are 35" wide, 7"H at center, and 9"H at side.

Item #	Description
SAF5875-29	Safety Supreme with standard cover, 75"L
SAF5880-29	Safety Supreme with standard cover, 80"L
SAF5884-29	Safety Supreme with standard cover, 84"L

Silver3® models. See description page 6**.** May require longer lead time.

84409-29	Safety Supreme with Silver3® cover, 75"L
53667-29	Safety Supreme with Silver3® cover, 80"L
18635-29	Safety Supreme with Silver3® cover, 84"L

Control Unit: Model #5900
Weight: 4.7 lbs.
Dimensions: 11.5" x 7" x 4.5"

Replacement Parts:

P10062	Replacement airline assembly with quick disconnect and transport lid
P10049	replacement quick disconnect with transport lid
P10063	Replacement airline only (without quick disconnect or transport lid)
P10065	Replacement hanger set
P10066	Replacement feet
P10067	Replacement internal female plate for air lines
P10061	Replacement electrical cord, (16' L, hospital grade, 3-prong)
P10064	Hanger locking strip
4050	Zippered mattress bag, delivery (green)
4051	Zippered mattress bag, pick-up (black)

Mattress Weight: Approximately 20 lbs.

Weight Limit: 350 lbs. for standard models

Cycle Time: 10 minutes

Placement: All mattresses can be placed directly on a healthcare bed frame.

Warranty: 18 months, not pro-rated, against manufacturing defects.

Flammability: All models comply with 2000 NFPA 101 (Life Safety Code), Cal. TB # 129 and 16 CFR 1632 and 1633.

Trouble Shooting Guide

Problem	Possible Cause	Solution
System will not power up. **Note:** **Always plug power supply into properly grounded receptacle.**	The system is not plugged in.	Plug power cord into wall receptacle.
	There is no power at outlet.	Restore power.
	Power cord is damaged.	Call for service.
	Blown fuse.	Call for service.
Patient not turning/alternating properly.	System is not turned ON.	Plug power cord into wall receptacle.
	Patient not centered on mattress.	Reposition the patient.
	Patient has severe contractures.	Turning can be difficult to observe in patients with severe contractures. Observe someone without contractures lying on the bed for 20 minutes (2 cycles) to confirm turning is functioning properly.
	Head of bed is elevated or knees are gatched.	The degree of patient turn achieved is reduced with elevation of the head of the bed or gatching of the knees. Adjust each as necessary to meet patient needs while maximizing turn angle.
	Defective Control Unit	Call for Service.
	Patient exceeds weight limit.	Call Span-America for assistance with product selection.
Mattress not inflating or patient reports a sinking feeling.	Control Unit is not turned on.	Turn control unit on.
	Airlines not connected.	Ensure secure connection of airlines at control unit and mattress.
	Airlines or quick disconnect connectors are damaged.	Call for replacement.
	Head of bed elevated.	Lower head of bed and allow air to equalize. Return head of bed to elevated position that is comfortable for patient.
	Defective control unit (mattress fills without patient, sinks with patient weight).	Call for service.

Problem	Possible Cause	Solution
Low pressure indicator illuminated.	Airlines not connected.	Disconnect and reconnect airlines to verify they have all locked into place.
	Airlines or quick disconnect connectors are damaged.	Call for replacement.
	Defective Control Unit.	Call for service.
	Leaking inflation system.	Call for replacement. To replace, turn mattress upside down and unzip cover. Remove inflation system, install new system, zip cover and restore mattress to upright position.
Interference produced to electronic equipment/devices in surrounding area.	Electromagnetic interference caused by the unintentional emission of electromagnetic waves of energy. These waves are transmitted through the air at various frequencies which may produce interference such as abnormal functioning to nearby electronic equipment.	Determine if emissions are causing the interference by turning the equipment off and on. If the interference in the affected device subsides when control unit is off, proceed with the following steps. a) Reorient or relocate the affected device. b) Increase the distance between the equipment. c) Connect the equipment into an outlet on a circuit different than that of the affected device. d) Consult the field service technician or manufacturer of the affected device.
Technical Service: **(800) 888-6752**		

TECHNICAL DESCRIPTION

Item		Specification
Power Supply (Note: See rating label on the product)		AC 100-120V 60 Hz, 0.17A (for 120V system) AC 220-240V 50 Hz, 0.07A (for 230V system)
Fuse Rating		T1A, 250V
Cycle time		Fixed
Environment	Temperature	Operation:10° C to 40° C (50° F to 104° F) Storage: -15° C to 50° C (5° F to 122° F) Shipping: -15° C to 70° C (5° F to 158° F)
	Humidity	Operation: 10% to 90% non-condensing Storage: 10% to 90% non-condensing Shipping:10 % to 90% non-condensing
	Atmospheric Pressure	Operation: 70 – 106 kPa Storage: 50 – 106 kPa Shipping: 50 – 106 kPa
Classification		Class II, Type BF, IPX0 Applied Part: Air Mattress Not suitable for use in the presence of a flammable anesthetic mixture (No AP or APG protection)

APPENDIX A: EMC INFORMATION

Guidance and Manufacturer's Declaration- Electromagnetic Emissions:

This device is intended for use in the electromagnetic environment specified below. The user of this device should make sure it is used in such an environment.

Emissions Test	Compliance	Electromagnetic Environment-Guidance
RF emissions CISPR 11	Group 1	The device uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The device is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network.
Harmonic emissions IEC61000-3-2	Class A	
Voltage fluctuations / Flicker emissions IEC61000-3-3	Complies	

Guidance and Manufacturer's Declaration- Electromagnetic Immunity:

This device is intended for use in the electromagnetic environment specified below. The user of this device should make sure it is used in such an environment.

Immunity Test	IEC60601 test level	Compliance	Electromagnetic Environment-Guidance
Electrostatic Discharge (ESD) IEC61000-4-2	±6kV contact ±8kV air	±6kV contact ±8kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/ burst IEC61000-4-4	±2kV for power supply line ±1kV for input/out line	±2kV for power supply line ±1kV for input/out line	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s)	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC61000-4-11	<5 % U_T (>95 % dip in U_T)for 0,5 cycle 40 % U_T (60 % dip in U_T)for 5 cycles 70 % U_T (30 % dip in U_T)for 25 cycles <5 % U_T (>95 % dip in U_T)for 5 sec	<5 % U_T (>95 % dip in U_T) for 0,5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5 % U_T (>95 % dip in U_T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of this device requires continued operation during power mains interruptions, it is recommended that the device be powered from an uninterruptible power supply or a battery.
Power frequency (50/60Hz) magnetic field IEC61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE: U_T is the a.c. mains voltage prior to the application of the test level			

Guidance and Manufacturer's Declaration - Electromagnetic Immunity:

This device is intended for use in the electromagnetic environment specified below. The user of this device should make sure it is used in such an environment.

Immunity Test	IEC60601 test level	Compliance	Electromagnetic Environment-Guidance
			Portable and mobile RF communications equipment should be used no closer to any part of this device, including cables, than there commended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1.2\sqrt{P}$ 150kHz to 80MHz $d = 1.2\sqrt{P}$ 150kHz to 80MHz $d = 2.3\sqrt{P}$ 80 MHz to 2.5G MHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).[b] Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey [c], should be less than the compliance level in each frequency range[d]. Interference may occur in the vicinity of equipment marked with the following symbol:
Conducted RF IEC 61000-4-6	3Vrms150 kHz to 80 MHz outside ISM bands[a]	3 Vrms	
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	

NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a/ The ISM (industrial, scientific and medical) bands between 150 kHz and 80 MHz are 6,765 MHz to 6,795 MHz;13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz; and 40,66 MHz to 40,70 MHz.

b/ The compliance levels in the ISM frequency bands between 150 kHz and 80 MHz and in the frequency range 80 MHz to 2.5 GHz are intended to decrease the likelihood that mobile/portable communications equipment could cause interference if it is inadvertently brought into patient areas. For this reason, an additional factor of 10/3 is used in calculating the recommended separation distance for transmitters in these frequency ranges.

c/ Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the device is used exceeds the applicable RF compliance level above, the device should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the device.

d/ Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communications equipment and this device:

This device is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of this device can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and this device as recommended below, according to the maximum output power of the communications equipment

Rated maximum output power of transmitter W	**Separation distance according to frequency of transmitter** m		
	150 kHz to 80 MHz $d = 1.2\sqrt{P}$	**80 MHz to 800 MHz** $d = 1.2\sqrt{P}$	**800 MHz to 2,5 GHz** $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

Note 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, and people.

PressureGuard APM² Safety Supreme Preventive Maintenance and Repair Log

Date	Air Filter	Power Cord	Mattress	Repair
Manufacturer: Span-America **Date Purchased:**		**Serial #:**		**C=Cleaned** **OK=Okay** **R=Repaired/Replaced**