User Manual

AIR WAVE

ALTERNATING PRESSURE WITH LOW AIR LOSS

MODEL # AW7000

MedaCure®

Innovative Healthcare Solutions

MADE IN TAIWAN

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STATEMENTS & SYMBOLS

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

CAUTION
Indicates correct operating or maintenance procedures to be carefully followed to prevent damage to or destruction of the equipment or other properties.

WARNING/DANGER
Attention should to be paid to a potential danger that requires correct procedures or practices in order to prevent personal injury.

Symbols:

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


Class II equipment


Type BF Equipment


Attention! Consult accompanying documents.


Follow operating Instructions

INTRODUCTION

Read this manual completely before setting up or operating this system.

This manual should be used for the initial set up of the AIR WAVE MATTRESS SYSTEM, Pump Model # Q20 Series & Mattress Model # AW7000 and for reference purposes.

General

The AIR WAVE MATTRESS System is a high quality air support surface suitable for medium to high-risk pressure ulcer prevention and treatment. It has been specifically designed for prevention and treatment of pressure ulcers and offers an optimal solution for pressure redistribution.

The AIR WAVE MATTRESS System has been tested and certified for the following standards:

ANSI/AAMI ES60601-1

CAN/CSA C22.2 NO.6060 -1

IEC 60601-1-11

Intended Use

The AIR WAVE MATTRESS System is intended for use as part of a pressure ulcer prevention program and not solely relied upon for this purpose. The system is designed to offer pressure relief while optimising patient comfort.

Before using the product ensure that:

► The electricity supply is of the type indicated on the power unit.

► The mains lead is free from damage and is positioned so as not to cause an obstruction.

► The system is not used in the presence of flammable anesthetics.

DO NOT use the system near a heat source.

DO NOT use with hot water bottles or electric blankets.

Although the materials used in the manufacture of the product conform to relevant fire safety regulations, we advise against smoking while the system is in use to prevent secondary ignition of associated items which may be flammable, such as bed linen.

Contraindication

Patient conditions for which the application of low air loss therapy on a non-alternation system is contraindicated are as follows:

Cervical or skeletal traction

Unstable spinal cord injuries

PACKAGE CONTENT

PUMP

Check the package to confirm you received the correct Pump, Model # Q20 Series, that works with Mattress Model # AW7000.

Each pump model works with a specific mattress model.

MATTRESS

The mattress supplied with the pump is an 8” replacement mattress. It should be set directly on the bed frame in place of a regular mattress.

COVER SHEET

The cover sheet protects the cells against unexpected contamination, and makes cleaning of the mattress easier.

MANUAL

Read this manual completely before using this product.

PRODUCT FUNCTIONS

PUMP

The functions of the pump for the AIR WAVE MATTRESS System are described below.
Please refer to the figures of each type.

▶ Power Switch (1)

The switch is at the right-hand side of the pump.

Press the ON/OFF power switch and the pump will start/stop working.

▶ Pressure-adjustment Knob (2)

Turn the comfort control knob to set the system for optimum performance.

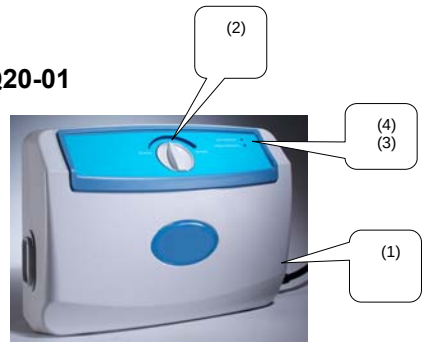
▶ Normal Pressure Indicator (3)

A visible Indicator (green) identifies that the pressure has reached the preset level.

▶ Low Pressure Indicator (4)

A visible indicator (yellow or red) warns that the pressure is below an acceptable level.

 # Q20-01



1. Power Switch
2. Pressure-adjustment Knob
3. Normal Pressure Indicator
4. Low Pressure Indicator

AIR FILTER
The Air Filter is located on the back of the pump, under a small cover.
Check and clean the Air Filter monthly. Replace the filter when it gets clogged.

MATTRESS

When the AIR WAVE MATTRESS is connected to the pump, the pressure in the air mattress provides the pressed area of the body of immobile and bedridden patient's, a brief rest to allow for normal blood circulation. This aids in preventing bedsores and other complications and can also save in costly medical treatments.

This system can be used at a home care, hospital, and nursing home setting for a majority of patients with physical disabilities. It is especially beneficial for patients with burn or scald injuries.

The air released from tiny holes on each cell could lead to a minor temperature shift between 41 to 43 degree Celsius. This will not cause an unacceptable thermal effect to the patient.

NOTE

Only the enclosed Mattress Model # AW7000 should be used with the enclosed Model # Q20 Series Pump.

Using a non-standard type of mattress may cause abnormal operation and unexpected hazard.

Please refer to the Specifications section for details.

Please consult your dealer for more information regarding mattress specifications.

INSTALLATION

Place the mattress flat on the bed frame. The inflation tube should be towards the foot of the bed so that it can be connected to the inflation nozzles on the pump. See figure below for reference.

Hang the pump over the frame or at the foot board of the bed. Make sure the pump is secured.

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 if the CPR valve is properly attached.

NOTE

Before inserting the plug into the outlet, make sure the voltage is compatible.

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

Step 4 ► Take precautions to position the equipment so as not to make it difficult to disconnect the plug or power cord from the outlet. The length of horses is less than 39 inches long. Position the pump near the foot end of the patient. The length of the power cord is 14.7 feet (max.). Position the power cord so that it is kept away from the patient.

Step 5 ► Plug the power cord into an electrical outlet with AC120V/60Hz output. The plug is used as the disconnection device from the supply mains. Position the plug for easy access. Keep the power cord away from the patient to prevent injuries such as strangulation.

☞ NOTE: BEFORE INSERTING THE PLUG INTO THE OUTLET, MAKE SURE THE VOLTAGE IS COMPATIBLE.

Step 6 ► Turn on the power by pressing the power switch at the right side of the pump.

Proceed to the Operation section.

Step 7 ► Make sure to disconnect the pump by unplugging the power cord when it is not in use.

OPERATION

⚠ Always read the operating instructions before use.

General

This product is designed to provide maximum comfort to long term care patients. Make sure to use this product in a proper way to optimize its value. Here we provide some general information the user should be aware of.

Regarding products

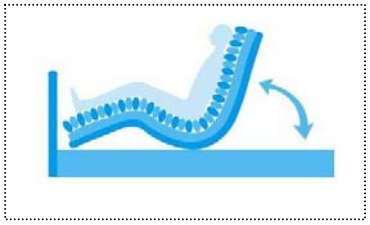
DO NOT use another pump other than the Model # Q20 series with the supplied mattress. It is dangerous to use a pump with pressure capacity over 120 mmHg. This may result in cell-puncture.

DO NOT change any component by yourself. If this system should require replacement or repair, always contact your local dealer or service center.

For patients

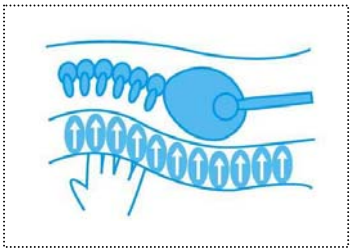
When the patient is in a sitting position, check to see that the patient is not bottoming out – the pressure setting is inadequate (or too low) – and the patient is hitting the bed frame.

See the figure at right. If there is an incident of bottoming out, simply adjust the pressure range a little higher.



HAND CHECK

Slide one hand between the patient's sacral region and the air mattress to feel whether the pressure is properly adjusted. The optimal clearance range is 1" to 1½" (25 to 40 mm).



NOTE

The hand check procedure is recommended by the Agency for Health Care Policy and Research.

Turn the power ON

A BEEP sound will begin the operation. The indicator (green) of the power switch will light up, and the pump starts to pump air into the mattress. The LOW PRESSURE indicator (red) will flash as the inflation of the mattress takes place.

NOTE

If the pressure does not reach 20 mmHg 40 minutes after the pump is turned on, the LOW PRESSURE indicator will continue flashing.

Pressure adjustment

The pressure of the mattress can be set by turning the PRESSURE ADJUSTMENT KNOB. You can set the pressure from SOFT-MEDIUM-FIRM by turning the knob. You can also set the pressure based on the patient's weight as indicated on the control panel. The pressure level ranges from 20 to 60mmHg.

NOTE

It is recommended to follow the HAND CHECK procedure as demonstrated in page 10 to determine the appropriate pressure level.

Automatic pressure control

During normal operation, the pump will monitor pressure changes and keep it constant at the set level. When the pressure is below the set pressure level, the pump will automatically speed up the inflation of the mattress. When the set pressure level is reached, the pump will stay at the specified rotation speed.

NOTE

If the pressure is consistently low, the LED low pressure indicator will light up and flash to attract attention.

If there should be obvious leakage, for example caused by loose connection of tubes, accidental cell puncture, the flashing indicator will be activated.

CPR function

When there is an emergency to perform CPR on the patient, pull the CPR strap to release the air immediately from the mattress.

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

CLEANING

In this section, the procedure to clean and decontaminate the pump will be described. It is important to follow these procedures before applying the system to patients.

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

Pump

- DO NOT immerse or soak the pump.
- Check for external damage and move the pump to the cleaning area.
- Place the pump on a work surface and wipe the outside of the case with quaternary ammonium solution.
- DO NOT spray any cleaning solution directly on the surface of the pump.
- DO NOT use a Hypocarbonate or Phenolic based cleaning solution as this may cause damage to the case. Allow the solution to incubate for 10 minutes or accordingly as stated by the cleaning product used.
- Wipe case with a clean cloth. Make sure all areas are clean (top and bottom, both sides).
- Spray cloth with cleaning solution and clean faceplate. DO NOT allow excess cleaning solution on faceplate or control panel. (Damage will occur if solution gets inside the pump.)
- 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

- 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 an 1:9 Hypochiorite solution (1 part bleach to 9 parts water) and allow drying for at least 10 minutes. Then blot with a clean, damp cloth.
- Unzip the top cover from the mattress.
- Brush or wipe down all surfaces with soap and water before applying any liquid.
- Covers are immersed and soaked in disinfectant for the required incubation time.
- After pre-soaking, the cover is rinsed through a regular cycle in a washer with no soap then laundered with mild detergent (wash temperature 93°F, rinse temperature 78°F or on the coldest setting).
- Covers are aerated until they are fully dry. (Drying temperature range 90-120°F or on the coldest setting.)
- The air cells are unsnapped from one side and are sprayed on all sides with a disinfectant. Let it sit for the required incubation time and wipe down with a clean cloth. (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.
- Allow the mattress to thoroughly air dry. Once the inside is dry, turn it back: wipe down the outside of the bag with disinfectant.
- Dry the mattress on a SUNLESS area after cleaning.

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.
- Follow the national requirement to dispose of the pump.

MAINTENANCE

General

- Check the power cord and plug to see if there are abrasions or excessive wear.
- Check the mattress cover for signs of wear or damage. Make sure 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.
- Check and clean the Air Filter monthly. The Air Filter is located on the back of the pump, under a small cover. Replace the filter when it gets clogged.
- Make sure the mattress tube is well connected.
- Check the pump and make sure both power and power indicator are off when the switch is turned off.

Low pressure

Examine if there is air leakage between the pump and the mattress connections or from the air mattress tubes.

- Check connectors between the air mattress and pump. If there is any disconnection, please reconnect it.
- Check the CPR Valves. Make sure their outlets are sealed.
- Check the air-connecting tubes. Make sure no single cell is broken.
- Set the highest pressure level. Keep the tubes fully inflated and inspect for air leakage.
- Check if there is any air leakage from cells. Make sure that no leakage occurs. If any leakage occurs, contact your local agent or dealer.

TROUBLESHOOTING

The pump doesn't work	1. Check if the plug is inserted firmly into the outlet. 2. Turn on the power switch again. ► If the power indicator is ON and the pump doesn't work, contact your local dealer immediately. ► 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.
Incomplete inflation (LOW PRESSURE)	1. For a quick check, adjust the pressure to Firm – the highest level. 2. Check if the tubes connected to the pump are either twisted or there is any leakage occurring. ► Always keep the tubes straight. ► Change tubes if there is any leakage. ► Ensure the CPR valves are closed. Ensure every single cell is not broken.
Slow air flow	A dirty filter may decrease the air flow. Wash the filter with mild detergent to keep it clean. ► Check the air filter at the back of the pump at least once a month.

DISPOSAL OF THE UNIT

Follow the national requirement to dispose the unit.

SPECIFICATIONS

System

Classification	Class II; IP21; AP/APG NO; Type BF
Applied Part	Mattress
Input Rating	120V/ 60Hz;1A
Fuse Rating	250V, T1AL T: Time delay L: Low breaking capacity
Pressure Range	20 ~ 60 mmHg
Cycle Time	12 min/60Hz
Dimensions (Pump)	11'" x 4" x 8" (280 × 104 × 206 mm)
Weight (Pump)	5.7 lbs. / 2.6 kg
Environment Requirements	▶ Temperature: Operation 41°F~104°F (5~40°C) Storage -13°F ~158°F (-25°C to 70°C) Shipping -13°F ~158°F (-25°C to 70°C) ▶ Humidity: Operation 15%~ 93% non-condensing Storage: less than 93% non-condensing Operation altitude: 0 ~ 3000 meter
Safety Standards	ANSI/AAMI ES60601-1 CAN/CSA C22.2 NO. 6060 -1 IEC 60601-1-11
Service life	5 years

NOTE

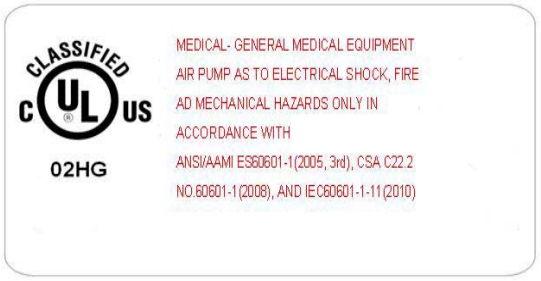
The above specifications are also applicable to those areas operating with the same power supply range.

AP/APG NO indicates the device is NOT suitable for use in the presence of flammable anesthetic mixture with air or with oxygen or nitrous oxide.

Type BF symbol indicates the degree of protection against electric shock.

Instructions or reference information for repair of equipment parts are provided by the manufacturer, please contact local dealer for further information.

TRADE MARK INFORMATION



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