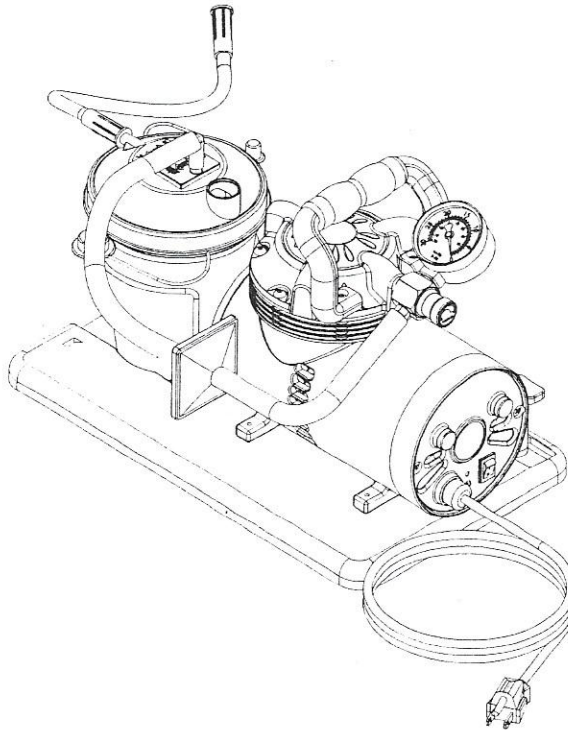


MADA MEDICAL SUCTION UNIT

Model 172BS-II



USER'S MANUAL

⚠ Caution

Federal law restricts this device to sale by or on order of a physician, or any other practitioner licensed by the law of the State in which he practices to use or order the use of this device.

⚠ NOTE

Check ALL parts for shipping damage. If shipping damage is noted, DO NOT use. Contact medical equipment provider for further instruction.

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1. SAFETY INFORMATION

When using electrical products, especially when children are present, basic safety precautions should always be followed. Read all instructions before using. Important information is highlighted by these terms:

DANGER

Urgent safety information for hazards that will cause serious injury or death.

WARNING

Important safety information for hazards that might cause serious injury.

CAUTION

Information for preventing damage to the product.

NOTE

Information to which you should pay special attention.

READ ALL USER'S MANUAL BEFORE USING.

DANGER

To reduce the risk of electrocution:

1. Do not use while bathing.
2. Do not place or store product where it can fall or be pulled into a tub or sink.
3. Do not place in or drop into water or other liquid.
4. Do not reach for a product that has fallen into water. Unplug immediately.

WARNING

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

1. Close supervision is necessary when this product is used by, on, or near children or invalids.
2. Use this product only for its intended use as described in this guide.
3. Never operate this product if:
 - a. It has a damaged power cord or plug.
 - b. It is not working properly.
 - c. It has been dropped or damaged.
 - d. It has been dropped into water.
4. Return the product to an authorized MADA medical equipment service center for examination and repair.
5. Keep the power cord away from heated surfaces.
6. Never use while drowsy or asleep.

⚠ SPECIFIC WARNINGS
TO REDUCE THE RISK OF ELECTRICAL SHOCK OR INJURY TO PERSONS, DO NOT DISASSEMBLE THIS UNIT. Disassembly or attempted repairs if accomplished incorrectly can create electrical shock hazard. Only qualified technicians should perform servicing of this suction unit.

⚠ DANGER
The MADA Suction Unit is a vacuum suction device designed for the collection of nonflammable fluid materials in medical applications only. Improper use during medical applications can cause injury or death.

For all medical applications:

1. All suctioning should be done in strict accordance with appropriate procedures that have been established by a licensed medical authority.
2. Some attachments or accessories may not fit the tubing supplied. All attachments or accessories should be checked prior to use to assure proper fit.

2. AC POWER SOURCE

⚠ CAUTION
The Model 172BS-II is used with a power supply allowing operation on AC voltage (115 VAC, 60 Hz). However the correct power source must be used to connect to adaptable wall power.

3. ELECTRICAL

Compressor :

If the overload protector shuts off the motor frequently, you may have a low voltage situation. Low voltage can also be suspected when:

1. The motor does not get up to full power or speed.
2. Other motor operated appliances fail to operate properly. Too many motor operated appliances on same circuit.

⚠ NOTE
The motor of this compressor has a thermal overload protector. If the motor overheats, the overload protector will shut off the motor. If this occurs, turn the ON/OFF switch to the OFF position and allow the motor to cool (approximately 5 minutes). Restart compressor. If the compressor fails to start, wait an additional 5 minutes before attempting to restart. If this fails, inspect the fuses on your suction unit. If the unit still does not restart, call your medical equipment provider immediately.

 **WARNING**

Proper operation of this product is necessary to avoid physical harm. Improper use can cause personal injury and/or tissue damage. This product should not be used unless the operator has been instructed by a physician or other qualified health care professional.

1. Familiarize yourself with this unit.
2. Place unit on table and push down hard so that suction feet hold unit firmly in place.
3. Before plugging power cord into electrical outlet, check if the ON/OFF switch is in the "O" OFF position.

 **NOTE**

Before attempting to start a cold unit, let the unit reach room temperature in a heated area.

4. INTRODUCTION

Your **MADA** Suction Unit is a professional medical suctioning device that produces a maximum vacuum of 560 mmHg. The unit is equipped with an 800 ml collection bottle and has been designed for convenient and reliable usages.

Features:

- New anti-bacteria filter design helps contamination.
- High quality vacuum regulator and anti-vibration vacuum gauge setting.
- Oil-less, permanent lubrication.
- Collection bottle with overflow protection.
- Superior performance and high reliability for continuous operation design.
- Easy carry and easy cleaning.

Following the recommended operating and maintenance procedures outlined in this user's manual will maximize the life of this product. Refer to the diagrams on page 6.

5. ILLUSTRATION IMPORTANT PARTS

MODEL: 172BS-II

1. Vacuum Adjust Knob
2. Vacuum Gauge
3. Bacteria Filter
4. Connection Tubing
5. Patient Tubing Connector
6. Patient Tubing
7. 800cc Collection Bottle
8. Holder
9. Fuse
10. Power Switch
11. Power Cord
12. Base
13. Rubber Feet
14. Cord Fixed Support

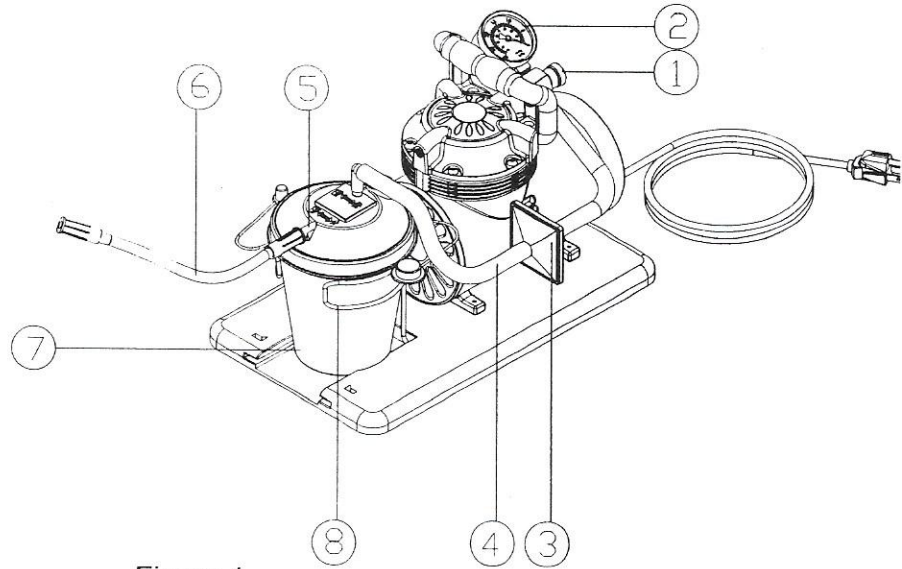


Figure 1

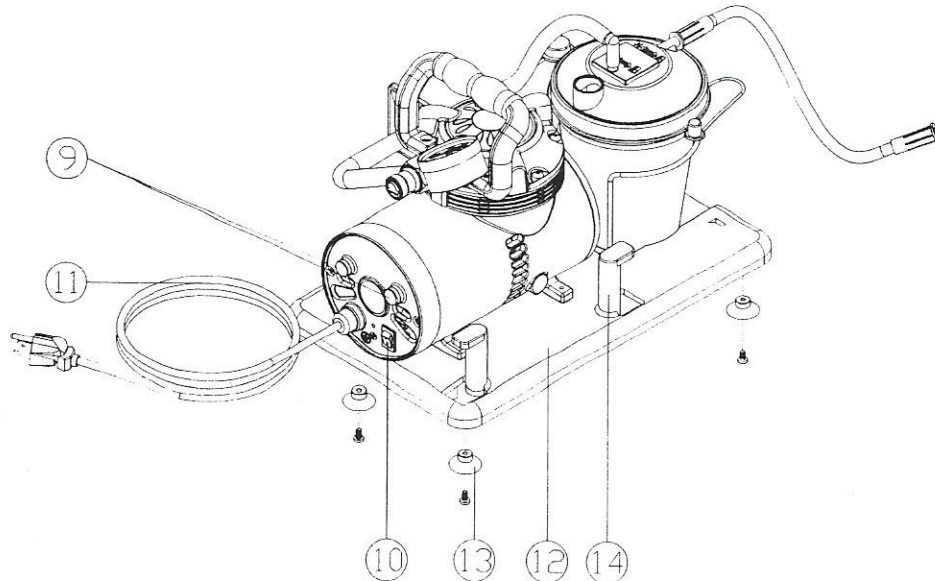


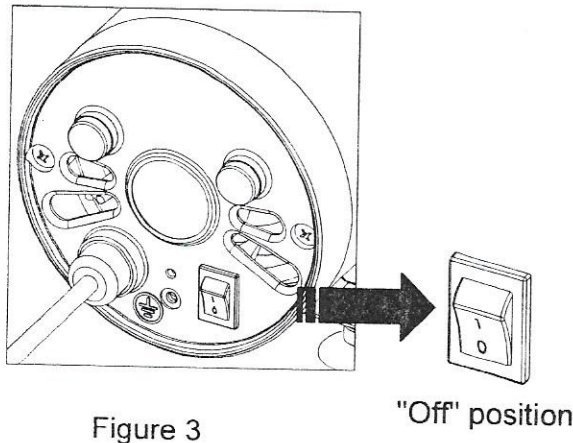
Figure 2

6. SET-UP

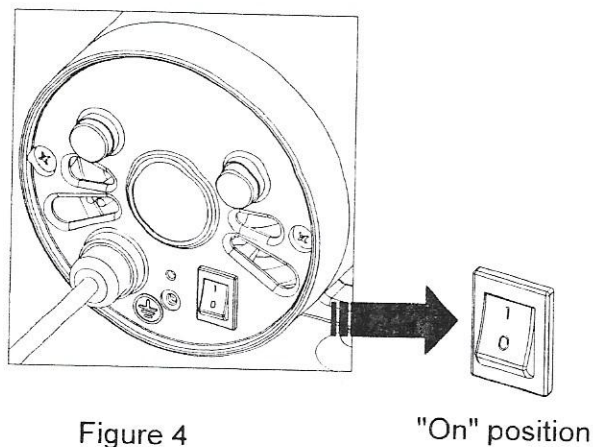
1. Connect either end of the connecting tubing (item# 4) to the top of collection bottle connector then connect the other end to the bacteria filter.
2. The patient tubing should be connected to collection bottle at the outlet labeled (patient). Please assure that all connections are secure and without leaks before using.

7. HOW TO OPERATE YOUR MADA SUCTION UNIT

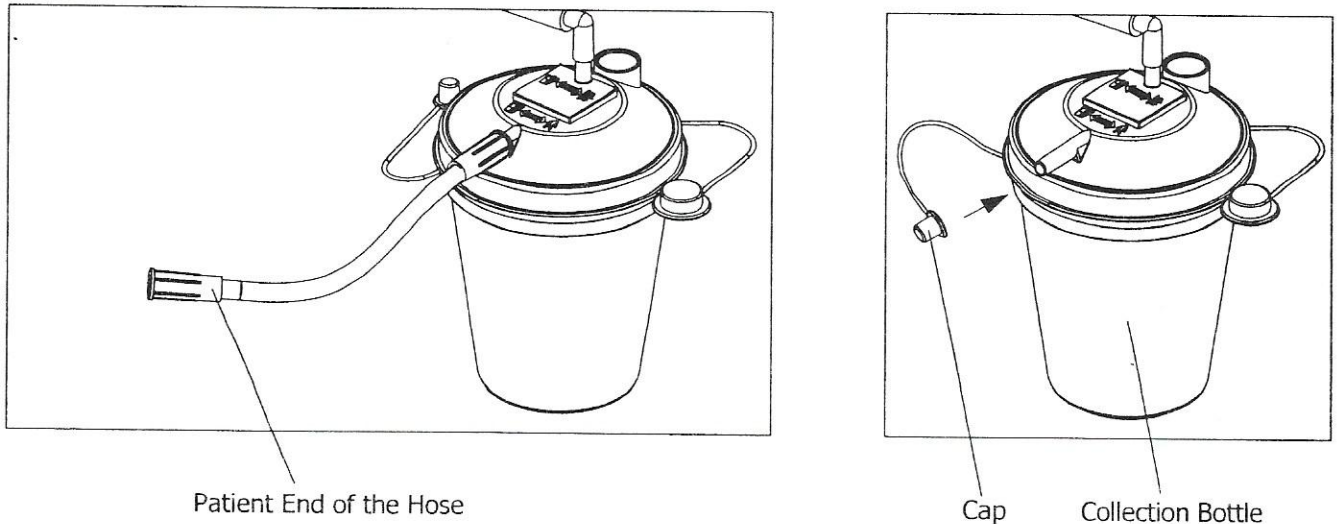
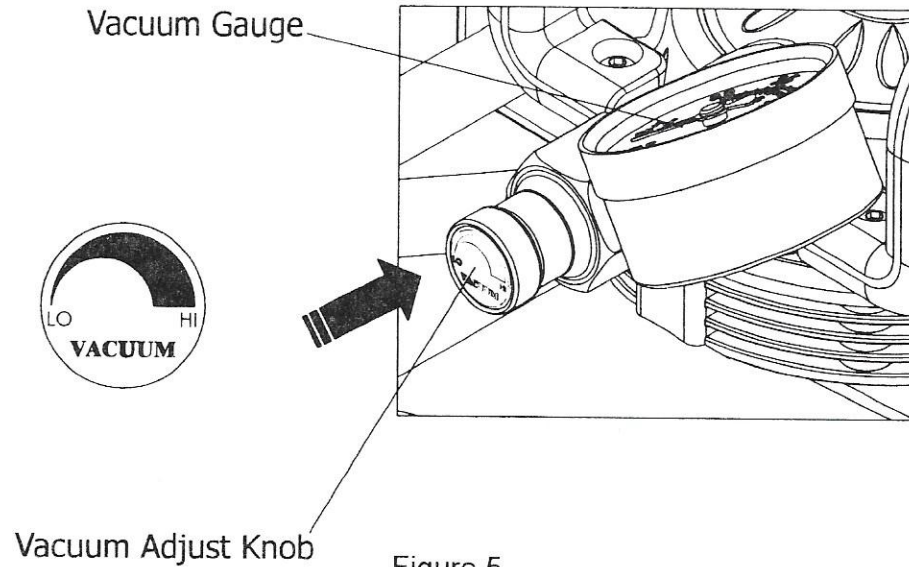
1. Before use, check the specification label on the side of the suction unit to ensure that the voltage and current indicated on the unit correspond with the voltage and current available. Make sure the power switch located on the side of the unit is in the "Off" position before connecting the unit to a power source.



2. Switch the power switch to "I" position (on), the unit start running.



3. Adjust the vacuum level from 0 to 560 mm Hg by turning the vacuum adjust knob (clockwise to increase vacuum and counter-clockwise to decrease vacuum). Referring to the vacuum gauge while setting the desired level of vacuum. To accurately read the gauge, block the patient end of the hose or cap off the collection bottle and allow the gauge to reach a stable vacuum reading.



4. Place the patient tubing to the appropriate position of patient and start to suck sputum.
5. When the sputum reaches the safe full level of collection bottle (800 cc), the suctioning will stop sucking automatically (float shut-off).

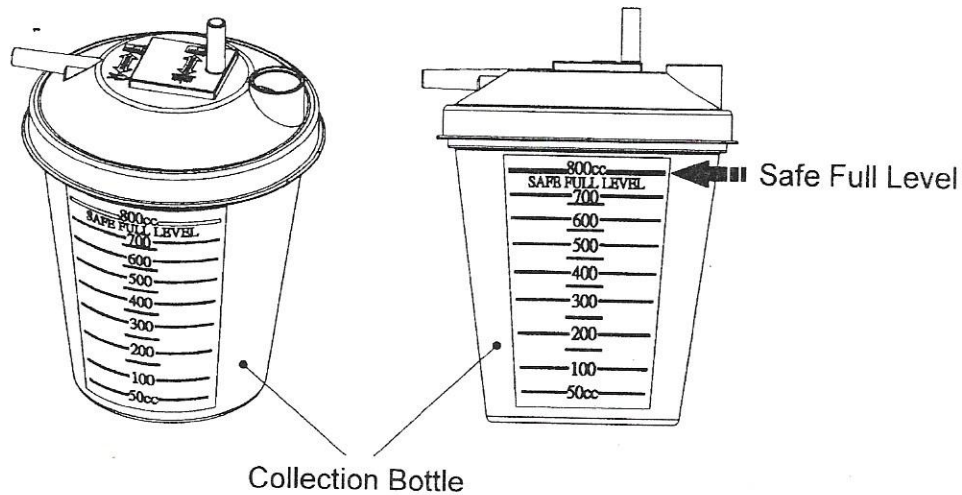


Figure 7

6. Switch the power switch to "O" position (off), shut off the suction motor.
7. Remove the sputum from collection bottle after the motor stops turning completely. (Please refer to the section "CLEAN INSTRUCTIONS" on page 9 for the directions of how to clean the collection bottle).
8. Turn on the unit and start to run the suction unit again.

⚠ NOTE

1. If the unit sustains a severe drop, validity of the gauge must be checked. Inspect if the float shut-off is still functioning properly when the liquid in the collection bottle reaches the safe full level.
2. Always transport unit with vacuum adjust knob rotated fully clockwise in case unit is dropped.

⚠ CAUTION

1. When automatic float shut-off is activated, contents of the collection bottles should be emptied. Further suctioning could cause damage to the vacuum pump.
2. Should fluid be aspirated back into the unit, send your suction to an authorized service center for a detailed inspection as the vacuum pump may have been damaged.

8. CLEANING INSTRUCTIONS

Clean Collection Bottle:

1. Turn off the suction unit and allow vacuum to drop, then disconnect AC power source.
2. With the collection bottle still in the holder, remove the collection bottle lid. The bottle can now be taken out of the holder to be emptied.

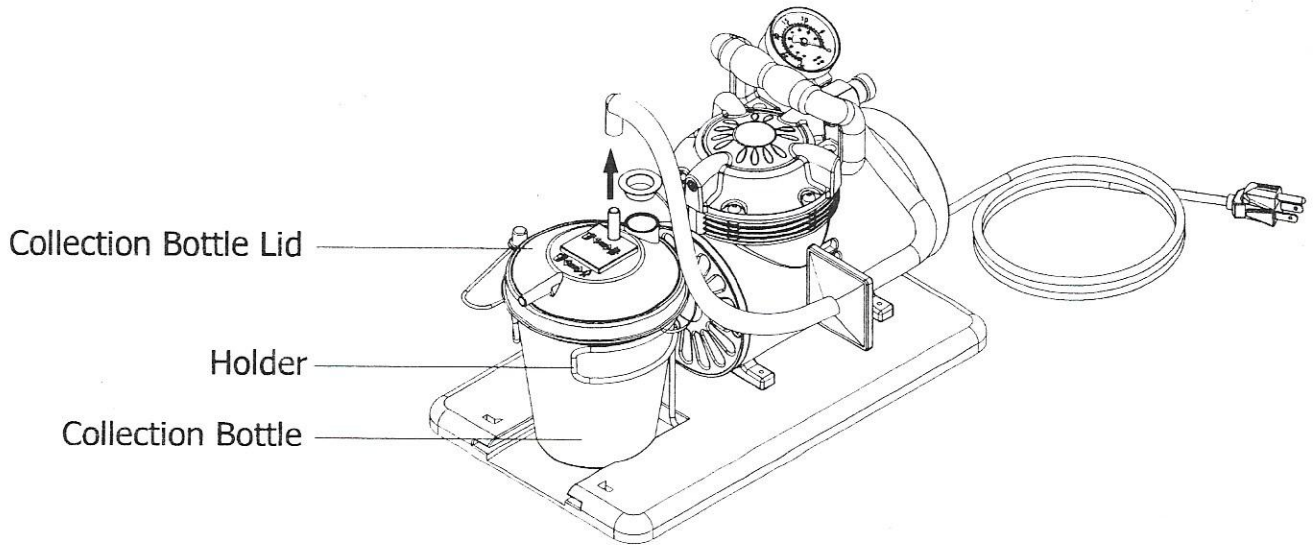


Figure 8

⚠ NOTE

Collection bottle should be emptied after each use.

3. Collection bottle should be thoroughly cleaned after each use by one of the following three methods:
 - a. Wash in a hot water/dishwashing detergent solution and rinse with clean, hot tap water. Then wash in one part vinegar to three parts hot water solution. Rinse with hot tap water and air dry.
 - b. Wash with rubbing alcohol and air dry
 - c. Wash with a commercial (bacterial-germicidal) disinfectant, follow disinfectant manufacturer's recommended instructions and dilution rates carefully.

Clean Suction Unit and Collection Bottle Lid:

1. Disconnect the suction unit from all external power sources.
2. Wipe the suction unit housing and collection bottle lid with a clean cloth and any commercial (bacterial-germicidal) disinfectant.

⚠ CAUTION

Do not submerge in water as this will result in severe damage to the vacuum pump.

Clean Tubing:

1. Disconnect the tubing from the unit.
2. Tubing should be rinsed thoroughly after every use by running hot tap water through it followed by a solution of one part vinegar to three parts hot water.
3. Rinse with hot tap water and air dry.
4. Keep the outer surface of the tubing clean by wiping with a clean, damp cloth.

⚠ WARNING

The waste in collection bottle may cause respiratory infection which must be handled according to medical waste disposing regulation. Operator must wear gloves and medical class mask before cleaning the collection bottle, tubing and handle the wasting unit and/or accessories.

9. MAINTENANCE

Inspect suction tubing and collection bottle for leaks, cracks, etc. before each use.

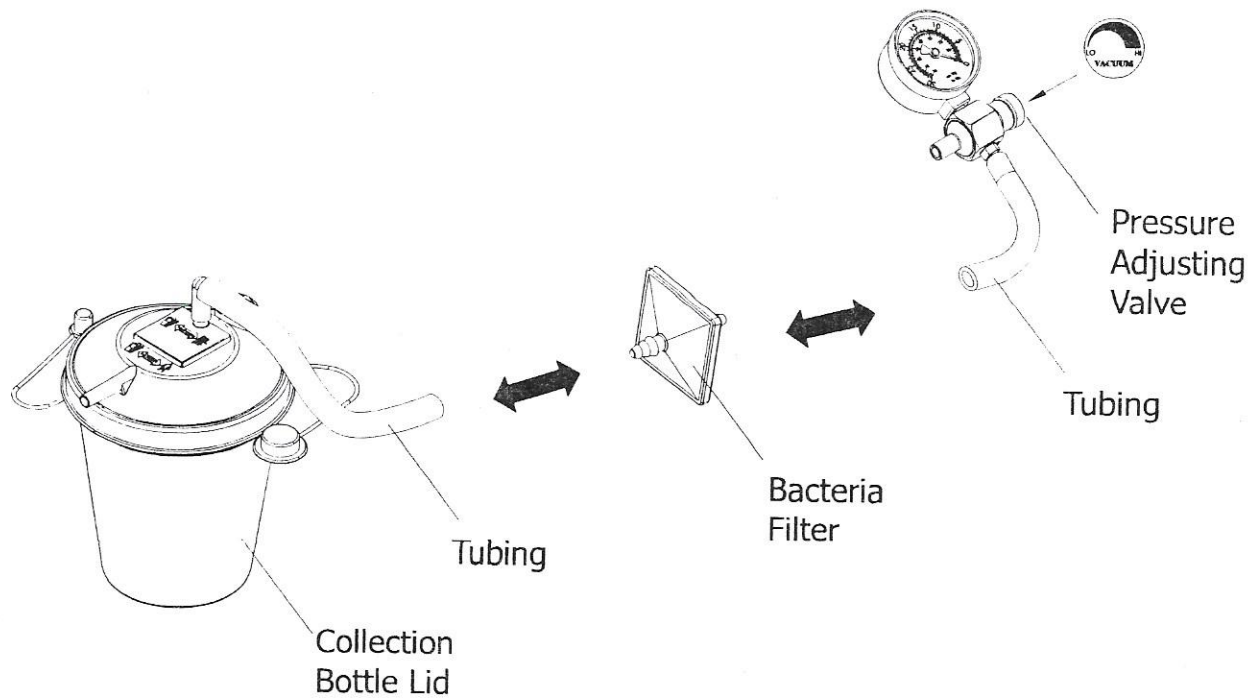
⚠ DANGER

Electric shock hazard

Do not attempt to open or remove the suction cabinet. If a service is required, return your suction to an authorized service center. Opening or tampering with the unit will void warranty.

Bacteria Filter Change:

1. Bacteria filter should be replaced every two month. If overflow occurs, change the filter immediately.
2. Remove filter by disconnecting it from tubing connected to pressure adjusting valve and tubing connected to collection bottle lid assembly.
3. Replace with a new **MADA** bacteria filter and connect to above two tubing. Additional filters can be purchased from an authorized dealer.



⚠ NOTE

Use only **MADA** filters. Do not substitute any other material for this bacteria filter. Improper substitution may lead to contamination or poor performance;

Fuse Change:

1. Use only the same type of fuse to replace the broken fuse.
2. Fuse specification: Miniature Glass Fuse 5x20mm, Fast Blow (Quick Acting), F2A/250V.

⚠ WARNING

When this unit or accessories reach the end of their useful lives (depends on using conditions), residues in collection bottle, tubing and filter may cause respiratory infection. Dump the wasting collection bottle, tubing and filter into a specific waste bin labeled with medical waste.

10. TROUBLESHOOTING

Your **MADA** Suction Unit contains no user-serviceable parts. If you believe your unit is not working properly, **BEFORE YOU RETURN IT TO THE MEDICAL EQUIPMENT PROVIDER WHERE YOU PURCHASED IT OR TO MADA**, please take a few moments to check for these possible causes:

PROBLEM	ACTION
Unit does not turn on	<ol style="list-style-type: none">1. Check power source and connection2. Ensure that the wall outlet is live3. Check power cord is not damage
Motor runs, no vacuum	<ol style="list-style-type: none">1. Verify tubing connection security2. Check for leaks or tubing kinks3. Ensure that float shut-off is not activated4. Check for bottle leaks and cracks
Low Vacuum	<ol style="list-style-type: none">1. Use vacuum adjust knob to increase vacuum level2. Check system for leaks3. Adjust vacuum adjust knob and release

11. SPECIFICATIONS / CLASSIFICATIONS

Dimensions	(L) 375 x (W) 175 x (H) 250 mm (14.8 x 6.8 x 9.8 in)
Weight.	5.5 kg (12.1 lb)
Maximum Vacuum	560 ± 3% mm Hg
Flow Range	> 44 LPM
Sound Level	< 58 dBA
Electrical Requirements	172BS-II: AC 115 V ~ 60Hz
Power Consumption	172BS-II: 70 watts
Bacteria Filter pore size	0.45 microns
Collection Bottle Capacity	800 ml (cc)
Operating Temperature	32° ~ 104° F (0° ~ 40°C)
Operating Humidity	95% RH
Operating Atmospheric Pressure	10.2 ~15.4 psi (70 ~106 kpa)
Storage Temperature	14° ~ 158° F (-10° ~ 70°C)
Storage Humidity	0 ~ 95%
Storage Atmospheric Pressure	7.3 ~15.4 psi (50 ~106 kpa)
Fuse Specification	Miniature Glass Fuse 5x20mm, Fast Blow (Quick Acting), F2A/250 V
Equipment Classifications	With respect to protection from electric shock Class I

12. WARRANTY

Two years limited warranty

The compressor portion of the **MADA** Suction Unit is warranted to be free from defective workmanship and materials for a period of two years from date of purchase and six months on accessories.

Any defective part(s) will be repaired or replaced at **MADA** option if the unit has not been tampered with or used improperly during that period. Make certain that any malfunction is not due to inadequate cleaning or failure to follow the instructions. If repair is necessary, please contact the medical equipment provider where you purchased it or **MADA**.

NOTE

This warranty does not cover providing a loaner unit, compensating for costs incurred in rental while said unit is under repair, or costs for labor incurred in repairing or replacing defective part(s).

THERE IS NO OTHER EXPRESS WARRANTY. IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THE EXPRESS LIMITED WARRANTY AND TO THE EXTENT PERMITTED BY LAW ANY AND ALL IMPLIED WARRANTIES ARE EXCLUDED. THIS IS THE EXCLUSIVE REMEDY AND LIABILITY FOR CONSEQUENTIAL AND INCIDENTAL DAMAGES UNDER ANY AND ALL WARRANTIES ARE EXCLUDED TO THE EXTENT EXCLUSION IS PERMITTED BY LAW. SOME STATES (IN THE US) DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, OR THE LIMITATION OR EXCLUSION OF CONSEQUENTIAL OR INCIDENTAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state (in the US).

Manufacturer's Note

Thank you for choosing **MADA** Suction Unit. We would like you to be a satisfied customer. If you have any questions or comments, please send them to our address below.

For Service Call Your Authorized **MADA** Representative.

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