Diamond 8 Plus

Alternating +
Micro Low Air Loss Pressure Relief System

User Manual

Manufactured by: Moxi Enterprises, LLC.
Distributed by: Quart Healthcare Inc.
www.quarthealthcare.com

Warning

- Connect the Master Control unit to a proper power source
- Do not use the system in the presence of any flammable gases (such as Anesthetic
- Agents)
- Keep the pump and mattress away from sources of liquid and open flames
- Keep mattress away from sharp objects
- The device is not AP/APG protected
- Keep mattress system away from heating devices

Caution

- Consult clinical instructor before use of mattress
- Support surfaces should always be used in conjunction with a care plan that includes
- the turning/repositioning of the patient over a 24 hour period
- The control unit should only be repaired by an authorized distributor
- Do not drop the control unit or store it in direct sunlight or extreme cold conditions
- Operation Temp: 5°C ~ 40°C R.H. : 15% ~ 93 %
- During operation, cell phone with a maximum output power of 2W shall be kept at
- least of 3.3 m
- The plug is used as the disconnection device from the AC mains. The plug shall be
- located for easily accessible
- No modification of this equipment is allowed.

Contraindications

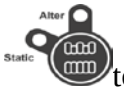
The system should not be applied to patients suffering from polytrauma with fractures of spine, pelvis, extremities and skull. Patients with neurological impairments and missing body perception needs their physician's prescription. Alternating pressure should not be applied to pain or pain-sensitive patients. In these cases we recommend the application of static mode or other suitable foam overlays or other materials which can be found Quart Healthcare product range.

People who suffer from allergies against any of the substances used for mattress or cells body should not be positioned on the mattress.

Intended Use

The Diamond 8 Plus system is a unique and innovative specialized mattress replacement unit. It features a patented 8-shape twin cell design; whereby, the bottom half of the cell is always inflated and the top half is free to alternate. The system utilizes micro low air loss technology with a low rate of flow. The advanced 3:1 alternating function also provides active prevention for pressure relief, especially for those in acute care and long term care settings (the cells inflate and deflate in a 3:1 cycle, meaning 2/3rds of the body is always supported at any one time). The soft-firm adjustment allows the patient to adjust the firmness or softness of the surface for optimal comfort. The surface also has 2 inches of enclosed convoluted foam to provide extra protection and comfort for the patient in case of power failure and the mattress deflates.

Control Unit Features (pump)

- 5 digital pressure setting for individual preference. The pump is set to default to Alternation mode for daily operation. Press 

to select Static mode if required. In addition the caregiver can select the “Static Function” stopping the alternating function and providing only micro-low air loss therapy
- The auto firm function provides uniform firmness for nursing procedures
- Power failures produce an audio alarm for added safety. The alarm can be disabled by pushing the ALARM RESET Button on the front panel 
- Double insulation provides near silent operation
- The foot board mounting rack provides convenient placement for the control unit on the bed
- Individual air cushion design for maximum pressure distribution
- Centre air cells are vented to provide micro low air loss therapy

Master Control Unit

Part No.	FC-QHI0002
Device Identifier (Health Canada).	FM-MOX0003S
Size (cm)	34.5(L)x12.5 (W)x22.5(H)
Weight (Kg)	3.8
Cycle Time (min) 20 min	20 min
Min/Max Pressure	20 ~ 60 mmHg +/- 5 mmHg
Max Flow-rate	8 L/min
Rated Voltage	AC 100-240V
Rated Frequency	50/60 Hz
Fuse Rating	T1AH/ 250V
Current	0.3-0.2A
Classification(UL60601-1)	Class II, Type BF Not AP or AGP Type Meet IP21 standard
Classification to Health Canada	Class 2
Mode of Operation	Continuous

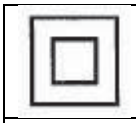
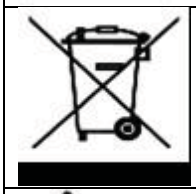
***IP classification: IP21**

First number, 2 describes the level of protection from solid objects. (up to 12 mm, e.g. person's fingers.
Second number, 1 describes the level of protection from liquids. (Protection against vertically falling drops of water e.g. condensation.)

Mattress Features

Part No#	FM-QHI0002
Device Identifier (Health Canada)	FM-MOX0003S
Size (cm)	89(W)x203(L)x24(H)
Weight (Kg)	20 Kg
Cells Material	Nylon w/ PU backing
Cover Type	Zipper cover with removable foam base
Cover Material	Nylon woven fabric w/ PU coating finish
Base Material	Woven Polyester fabric w/ PVC backing
Cells Number	18 cells

Symbols Used

	Class II Equipment
	Refer to Accompanying Documents
	Type BF Applied Part
	Waste Disposal
	Warning

1. Instructions for Proper Use

i. Remove the existing mattress from the bed frame
ii. Replace the standard mattress with mattress replacement system (orient mattress so that the air tube is at the foot of the bed)
iii. Secure straps beneath the mattress to the bed frame
iv. Hang the control unit on the foot board of the bed frame
v. Attach the air tube connectors to the socket on the left panel of the control unit
vi. Verify that air hoses are not kinked under the mattress
vii. Attach cover to mattress
viii. Plug in the control unit and turn on the master power switch on the right side panel (the STANDBY LED will illuminate)

ix. Push the STANDBY/OPERATE button on the front panel (OPERATE LED will now be illuminated and the control unit will be in operation)

x. Pressing MAX button will activate quick inflation to bring the mattress to a flat surface for performing nursing tasks with maximum pressure. The pump is set to default back to "ALTER" after 30 minutes of inflation. After the mattress is fully inflated, the caregiver can transfer the patient to the mattress 

xi. Push MAX again to release the fast inflation mode

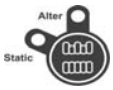
Battery status: 

Orange light will be illuminated if low battery. Green light will be flashing when battery is in recharge.

Low Pressure: 

Possible air leaks or loose tubing connection result in low pressure.

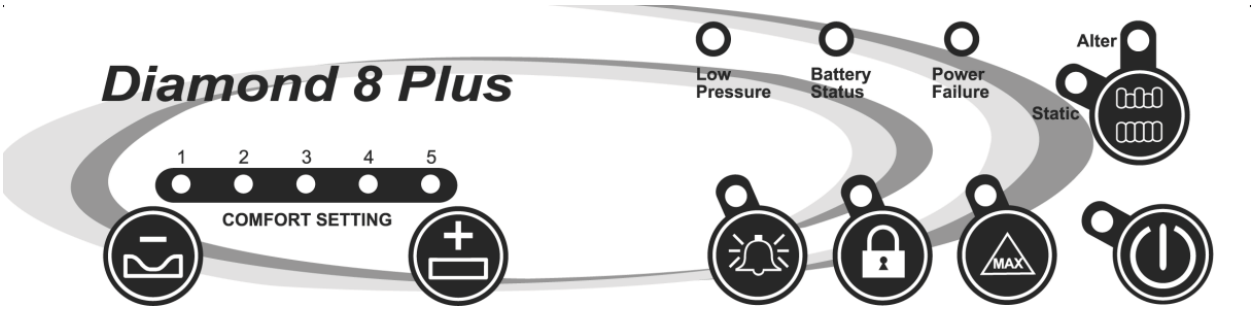
Lock Function: 
Press the LOCK button for 3 seconds to unlock the face plate.

Static Function: 

Push the STATIC button and adjust the comfort control by pressing the SOFT/FIRM button to achieve maximum patient comfort. On this mode the system provides only low air loss therapy. Perform a hand check by placing hand under the patient's buttocks between the cells and foam. The patient should have at least 4 cm of clearance between the buttocks and the bottom of the mattress.

Dynamic Function:
Push the alternate button to enable the 3:1 alternating function.

CPR Deflation:
For quick mattress deflation disconnect the hose connector from the controller and release the CPR quick deflation valve.



2. Cleaning

Mattress Overlay
The mattress should be cleaned on the bed weekly using a damp soft cloth and mild detergent.

If top sheet (Top cover) or base (Bottom cover) becomes grossly soiled, put on clean gloves, plastic gown and eye protection before removing top sheet or base and disposing according to standard hospital procedures for contaminated waste. Replace with clean covers.

Covers can be washed and thermally disinfected in a washing machine following below procedure: **(Never use phenol based cleaning solutions)**

Industrial	Break washes	Cold	10 minutes
	Main washes	60º C	6 minutes
	Main washes	70º C	10 minutes
	Extraction		2 minutes
	3 Cold Rinses		
	Extraction		5 minutes
Domestic	Pre-wash	Cold	
	Main Wash	70º C	10 minutes
	Extraction		2 minutes
	Cold Rinses		
	Extraction		5 minutes

TUMBLE DRYING OR TUNNEL DRYING IS NOT RECOMMENDED
Mattress cells can be wiped with a solution of sodium hypochlorite 1000ppm or any other non-phenolic germicidal solution.

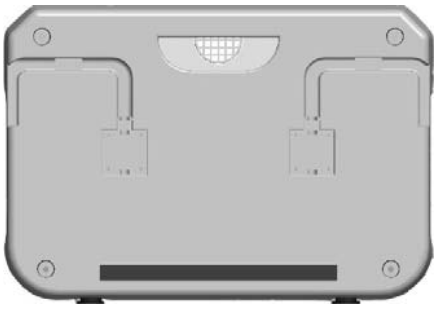
Master Control Unit

SWITCH OFF THE ELECTRICAL SUPPLY TO THE PUMP AND DISCONNECT THE POWER CORD FROM THE MAIN SUPPLY BEFORE CLEANING AND INSPECTION

The casing of the pump is manufactured from ABS plastic. If soiled it can be wiped down with a sodium hypochlorite solution to dilution of 1000ppm or any EPA approved hospital grade disinfectant. **(Do not use phenol based cleaning solution)**

The air filter should also be cleaned and checked as often as possible at a minimum of every six months. Air Filter can be removed by pinching center of the filter and pulling outward from the back of the Therapy control unit.

Cleaning procedure for air filter.
1. Remove Air filter and Replace a new Filter.
2. Use a soft bristle brush to remove dust and difficult dried-on soil.



(Do not use phenol based cleaning solutions)
(Switch off the electrical supply to the pump and disconnect the power cord from the main supply before cleaning and inspection)

3. Storage and Care

Control Unit:

- Check the power cord and plug for abrasions and excessive wear
- Plug in the unit and verify air flow from the hose connection ports
- Place in plastic bag for storage

Mattress Replacement System:

- Check the air manifold for kinks or breaks. Replace if necessary
- Twist open the CPR plug at the head of the mattress and disconnect the air feed tubes. All of the air will be expelled. Starting at the head of the mattress roll towards the foot of the bed. Use the base mounted straps to secure.
- Place the system in a plastic bag for storage.

It is recommended that the following guidelines are used whenever the system is being stored or transported to another location:

Temperature limitations	-2560° C □C ~ 70° C
Relative humidity	30% ~ 93%

4. Waste Disposal

This Product has been supplied from an environmentally aware manufacturer that complies with the WEEE.

This product may contain substances that could be harmful to the environment if disposed of in places (landfills) that are not appropriate according the legislation.

Please be environmentally responsible and recycle this product through your recycling facility at its end of life.

5. Maintenance and Troubleshooting

No daily maintenance is required. This equipment should only be serviced by authorized technical personnel. Use only original spare parts and consumables. In case of minor problems refer to the following:

Symptom	Inspection Procedure	Possible Solution
The air is flowing out from the control unit but the mattress is not inflating	• Do the air tubes allow smooth airflow? Is an air tube kinked? • Is there any air leakage from the air cells? • Is there any air leakage from air tube between mattress and control unit? • Has the air tube connector been connected properly?	• Adjust the air tubes to enable smooth air flow. • Replace with new air cells • Replace with new air tubes • Re-connect the air tubes.
The Control Unit is not working	• Check the fuse	• Replace with a new fuse. • Fuses may only be exchanged by qualified and authorized personnel.
Some air cells have abnormal low air pressure while the air pressure for other air cells is normal	• Is the connection between air cells and the manifold kinked? • Is there any air leakage from the air cells?	• Adjust the connection between cells and manifold • Replace with a new air cell.

6. Warranty

- Quart Healthcare Products guarantees that this equipment is free from defects in materials and workmanship. Our obligation under this warranty is limited to the repair of equipment returned to the place of purchase within 24 months of delivery date
- We agree to service/adjust any equipment returned, and to replace or repair any part that is proven to be a warranty defect, at no charge
- This warranty excludes equipment damage through shipping, tampering, improper maintenance, carelessness, accident, negligence or misuse, or products that have been altered, repaired or dismantled other than with the manufacture's written authorization and by its approved procedures and by properly qualified technicians
- In no event shall Quart Healthcare Products be liable for any direct, indirect or consequential damages or losses resulting from the use of equipment