



Dynamic Low Air Loss (DynaLAL)

Alternating + Pressure Relief

User Manual



Distributed by: Quart Healthcare Inc.
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Warning

- ❖ Connect the Master Control unit to an appropriate 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

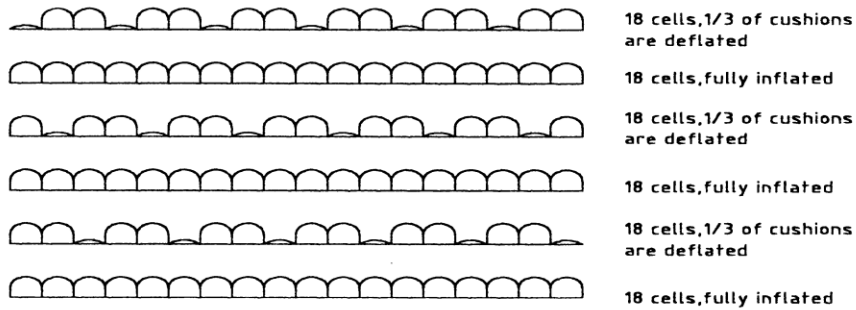
- ❖ Consult clinical instructor before use of mattress
- ❖ Support surfaces should always be used in conjunction with a care plan that includes the turning/repositioning of the patient over a 24-hour period
- ❖ The control unit should only be repaired by an authorized distributor
- ❖ Do not drop the control unit or store it in direct sunlight or extreme cold conditions

1. Product Description

The DynaLAL system is a unique and innovative specialized mattress replacement unit. The system utilizes low air loss technology with a high flow rate that provides pressure management for the treatment of pressure ulcers. 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 DynaLAL system offers “deep-cell therapy”; whereby, the cells completely collapse providing “0” pressure at the point of deflation. The soft-firm adjustment allows the patient to adjust the firmness or softness of the surface for optimal comfort through 8 digital scales. The surface also has 2 inches of enclosed convoluted foam to provide extra protection and comfort for the patient in the event of a power failure and the mattress deflates.

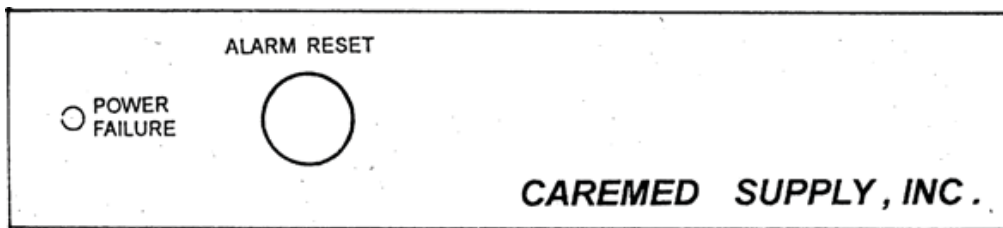


3-1 Alternation Cycle Illustration



Control Unit Features (pump)

- Alternating time can be adjusted in 5min increments to 95 min. In addition, the caregiver can select the “Static Function” stopping the alternating function and providing only 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
- Foot board mounting rack provides convenient placement on bed.

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Master Control Unit

Part No	FC-QHI0079
Device Identifier (Health Canada)	FC-CRP0079
Size (cm)	42(L)x17 (W)x27(H)
Weight (Kg)	6.1
Phase Time	5 ~ 95
Rated Voltage	120 volt
Fuse Rating	T5AH 250V
Max Current	18W
Rated Frequency	60 Hz
Protection Type	Classification (UL60601-1) Class I, Type BF
Classification to Health Canada	Class II
Operation Temperature	15 c ~ 40 c
Mode of Operation	Continuous
Safety Standard	UL/CSA

Mattress Replacement Features

- Individual air cushion design for maximum pressure distribution.
- Air cells are vented to provide true low air loss therapy with a high flow rate.
- Individual air cushion design for maximum pressure distribution.

Alternating Mattress Replacement Features

Part No	FM-QHI0001
Device Identifier (Health Canada)	FM-CRP0001
Size (cm)	89(W)x203(L)x24(H) – (36" x 80" x 9.5")
Weight (Kg)	17.5 Kg
Part No	FM-QHI0005
Device Identifier (Health Canada)	FM-CRP0005
Size (cm)	122(W)x203(L)x24(H) – (48" x 80" x 9.5")
Weight (Kg)	21.0 Kg
Cells Material	PU
Cover Type	Zipper cover with removable foam base
Cover Material	Nylon knitted fabric w/ PU coating finish
Base Material	Woven Polyester fabric w/ PVC backing



2. 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 (connectors and sockets are colour coded)
- 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. Push the AUTO FIRM button for fast inflation. Allow 4-7 min for full inflation.
- xi. After the mattress is fully inflated, the caregiver can transfer the patient to the mattress (note: the mattress can be inflated while a patient is laying on it)
- xii. Push AUTO FIRM again to release the fast inflation mode
- xiii. Alternation time can be adjusted by the CYCLE TIME button.
- xiv. When the control unit is powered-on, it will default to previous setting.

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 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. If the STATIC function is selected the time display will remain blank.

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

Lock-out Function: When lock-out function activates, buttons on control panel will be non-functional.

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



3. Cleaning

The mattress should be cleaned on the bed weekly using a damp soft cloth and mild detergent. If the top or bottom cover becomes severely soiled, remove, clean as follows, and replace with a clean cover. Covers can be washed and thermally disinfected in a washing machine. Cover should not be put into a dryer. **(Never use phenol-based cleaning solutions)**

Industrial cleaning

Break wash	cold	10 min
Main wash	60C	6 min
Main wash	70C	10 min
Extraction		2 min
3 cold rinses		
Extraction		5 min

Domestic cleaning

Pre-wash	cold	
Main wash	70C	10 min
Extraction		2 min
Cold rinses		

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.

Note: The control unit should also be cleaned weekly using a damp soft cloth and mild detergent **(Switch off the electrical supply to the pump and disconnect the power cord from the main supply before cleaning and inspection).**

The Pump: 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 solutions)**

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Cleaning procedure for air filter

1. Air Filter is located at the back of the control unit, inside the carry handle. No tools are required to remove it. Air Filter must be removed for inspection at least once a month and washed under running tap water if necessary. Squeeze to remove excess water before reinstalling it.
2. Use a soft brush to remove dust and debris from the air-intake muffler prior to reinstalling the filter.
3. New filters are also available.

(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)

4. 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.

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

Temperature limitations	5C to 60C
Relative humidity	30% to 75%

2. Maintenance and Troubleshooting

No daily maintenance is required. This equipment should only be serviced by authorized technical personnel. 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	<ol style="list-style-type: none">1. Is the power source correct? Improper voltage may cause the pump to function abnormally and damage the control unit.2. Do the air tubes allow smooth airflow? Is an air tube kinked?3. Is there any air leakage from the air cells?4. Is there any air leakage from air tube between mattress and control unit?5. Has the air tube connector been connected properly?	<ol style="list-style-type: none">1. Use power regulator.2. Adjust the air tubes to enable smooth air flow.3. Replace with new air cells4. Replace with new air tubes

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		5. Re-connect the air tubes.
The Control Unit is not working	1. Check the power cord and the power voltage. 2. Check the fuse	1. Use a power regulator 2. Replace with a new fuse
Some air cells have abnormal low air pressure while the air pressure for other air cells is normal	1. Is the connection between air cells and the manifold kinked? 2. Is there any air leakage from the air cells?	1..Adjust the connection between cells and manifold 2. Replace with a new air cell.

3. Warranty

- Quart Healthcare Inc. 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 Inc. be liable for any direct, indirect or consequential damages or losses resulting from the use of equipment