

75 Ultimate

User Manual

This product carries the CE mark
in accordance with EC Directive on
Medical Devices (93/142/EEC) .

Control Number 95CG. Classified by
Underwriter's Laboratory Inc. for UL
2601-1 standard for Medical Electrical
Equipment.



Important Notice

Before operating this medical equipment, it is important to read this manual and understand the operating instructions and safety precautions. Failure to do so could result in patient injury and/or damage to the product.

If you have any questions, please contact Lifehealthcare on 1300 133 120.

Warranty Information

Lifehealthcare Hospital & Rehab warrants each of its products to perform in accordance with established specifications for the following time periods, starting from the date the product is shipped from our supplier.

- Control Units 2 years
- Soft Goods 2 years

During the warranty period, Lifehealthcare Hospital & Rehab will repair or replace at no charge, any products that are not performing in accordance with established specifications, unless the problem/failure is due to (1) customer damage, negligence and or misuse or (2) unauthorised repairs. Items not covered under warranty include, but are not limited to; stains, punctures, cuts, damages to electrical cords, rips or tears, dents and or lost/missing parts.

All products returned for warranty repairs must be assigned a return authorisation number prior to return. Returns should include information describing the problem and or requested repair and be sent to a Lifehealthcare Service Centre by prepaid transportation. Lifehealthcare Hospital & Rehab will return the repaired/replaced product at no charge. Warranty repairs do not extend the length of the warranty period.

Neither Lifehealthcare Hospital & Rehab, its officers, directors, employees or agents shall be liable for consequential or other damages, including but no limited to personal injury, loss, or any other expense, directly or indirectly arising from the use of its products. The sole remedy for breach of the limited warranty granted herein shall be repair or replacement of the Lifehealthcare Hospital & Rehab products.

Technical Specifications

Ultimate75

Cycle Control:	Purpose designed distributor valve supplying operating air to the inflatable cells
Cycle Time	10 minutes
Supply Voltage	230V, 50Hz 120V, 60Hz 0.2A for Control Unit 0.01 -6A for power down alarm (availability of supply monitored by in-line power-down alarm which provides failure indication)
Fuse Rating	Mains Plug - 3A, Control Unit - 1A
Power Rating	12VA
Overlay Order Code	MC-3-PA

Overlay Dimensions & Weight

Length	2000mm
Width	880mm
Height	90mm
Weight	8.4kgs

Control Unit Dimensions & Weight

Height	115mm
Width	135mm
Depth	270mm
Weight	2.1kgs

Cells	21 cells
Cell material	0.15mm TPU film laminated on 210 Denier Nylon fabric
Base material	Nylon fabric 420 Denier with a 0.1mm TPU coating
Cover Material	Nylon with PVC membrane, PU leather, base is polyester
Micro Air Loss cells	N/A
Connection	Quick release connectors
Emergency	N/A
Electrical Safety	EN 60601.1:1996, UL 2601-1 safe
Standards	CE, UL
Mode of Operation	Continuous
Environment	
Air humidity	30% to 75%
Ambient temperature	0°C to 70°C

All product specifications are subject to change without notice.

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Safety Precautions

In General

CAUTION: Do not use this equipment in the presence of flammable anesthetics. Explosions could result.

IMPORTANT: Bed frames used with the systems can vary greatly depending on the specific health care setting, ie hospitals, nursing homes, home care, etc. Therefore, it is the responsibility of the caregiver to take the necessary precautions to ensure the safety of the patient. This includes, but is not limited to, the appropriate use of side rails to prevent falls and/or patient entrapment.

IMPORTANT: Minimise contact between the systems surface and patient, and secure bed sheets loosely so as not to affect the alternating cell movement

Control Unit

- Only plug into a grounded power receptacle and use the power cord supplied with the system
- Exposure of the electronic controller to any liquid while it is plugged in could result in a severe electrical hazard
- Only use fuses that have the same specified rating (see Technical Specifications). Using fuses with higher ratings could result in damage and/or injury
- The electronic controller is a precision electronic product. Use care when handling or transporting. Dropping, or other sudden impacts, may result in damage to the unit
- Risk of electric shock. DO NOT OPEN. Do not attempt to repair or service the Control Unit. Repairs and service should be conducted by Novis Healthcare nominated Service Centres. If the Control Unit is not functioning properly, or has been damaged, unplug the unit and take it out of service immediately. Contact Lifehealthcare on 1300 133 120 for repairs and service information.
- Do not place any objects/items, such as blankets, on or over the Control Unit. Excessive weight on the Control Unit could result in damage
- The power cord to the Control Unit should be positioned to avoid a tripping hazard and/or damage to the cord. Novis Healthcare recommends placing the cord under the bed frame and attaching it to an electrical outlet by the head of the bed.

Control unit

WARNING: Ensure the Control Unit is disconnected from the mains electricity supply before cleaning.

WARNING: DO NOT spray disinfectant directly on to the Control Unit, or immerse the controller in any type of liquid. This could result in a severe electrical hazard as this equipment has no protection against ingress of water.

WARNING: This equipment is not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

External cleaning

Wipe down Control Unit with warm water containing detergent (or with a solution of Sodium Hypo chlorite or similar), dry thoroughly before use

Air Filter Replacement

1. Switch off the power supply to the Control Unit
2. Disconnect the electrical lead and air hoses
3. Place the Control Unit on a flat surface with its back panel uppermost (NOTE: be sure to place soft cloth under unit to prevent scratches)
4. Carefully pry off the cover of the air filter, remove and discard the filter material and fit new. (there may be a small locking screw - use a small philips head to remove this first)
5. Refit the air filter cover to the Control Unit. The Control Unit is now ready for re-connection.

Maintenance & Cleaning

NOTE: Good filter maintenance is critical in keeping your system in optimal operating condition. Failure to keep the filters clean will result in system downtime and increase repair costs. It is recommended that the air filter be replaced annually. Replacement air filters are available from Lifehealthcare Service Centre

Fuse Replacement

1. Ensure the control unit is deactivated
2. Remove the power cord from the electrical socket on the side of the control unit
3. Using a small flat head screwdriver insert into the groove and turn anti-clockwise (1/4 turn)
4. Remove the "blown" fuse from the fuse holder clip and discard
5. Insert a new fuse into the plug. Push against the force of the spring and turn clockwise with the screwdriver a ¼ turn.

Maintenance & Cleaning

Infection Control and routine cleaning must be carried out in accordance with your local Infection Control Policy. It is suggested that all disinfection be done with a high grade disinfectant in accordance with manufacturer's instructions.

WARNING: Do not use high temperature autoclave, or use Phenolic based products for cleaning.

IMPORTANT: It is recommended the system is cleaned between patients and approximately every 2 weeks if in constant use.

Overlay Top Cover Washing and Disinfecting

If there are visible signs of body fluids and or substances present, top covers should be washed. Top covers can be machine washed (up to 70°C) using disinfectant according to manufacturers' instructions. To determine the amount of disinfectant to use, determine the amount of water in the washer and then follow the manufacturers' instructions for dilution. Soak the Top Cover in the disinfectant during the wash cycle. Rinse well in clean water and dry thoroughly before use.

CAUTION: DO NOT dry the Top Cover using the HEAT cycle or a dryer. Air dry or select a low or NON heat dry cycle.

Washing Alternative

If there are no visible signs of body fluids and or substances on the top cover, it can be sanitized.

1. Apply an intermediate level disinfectant (or a solution of Sodium Hypo chlorite or similar up to 10,000 ppm available chlorine) to the Top Cover upper surface either by spraying or by hand application.
2. Ensure the surface is completely covered with the disinfectant and remains in contact with the surface according to manufacturer's instructions
3. Remove disinfectant and rinse thoroughly
4. Allow to air dry before use.

Outside Shell

Wipe down with disinfectant (or a solution of Sodium Hypo chlorite or similar up to 10,000 ppm available chlorine), ensuring that all surfaces come in contact with the disinfectant. Rinse off well with a clean damp cloth and air dry.

CPR

The exterior of the CPR assembly and tag can be periodically wiped using a cloth a dampened with disinfectant.

Air Cell Assembly

CAUTION: DO NOT machine wash or dry the air cells. The air cell assembly does not routinely need to be cleaned or disinfected.

IMPORTANT: DO NOT disassemble the overlay, unless cleaning is required. If cleaning or disinfecting is required, DO NOT disconnect the hoses from the air cells.

Product Overview

Ultimate75 Alternating Overlay System

The Ultimate75 is an alternating mattress overlay system providing pressure application and release to patients with, or vulnerable to pressure ulcers. It is designed for use on top of an existing mattress and can be used on both standard and profiling bed frames.

The Ultimate75 alternating overlay system consists of the following

- Control Unit
- Mattress Overlay.
- Power Cord
- Instruction Manual
- Carry Bag

The Control Unit provides the air supply to the mattress. It is controlled by an analogue dial to control comfort levels. A lighted on/off switch activates/deactivates the control unit.

On the left side of the Control Unit are two quick release air connectors for connecting the overlay hoses.

The mains supply to the Control Unit can be easily disconnected and is designed to detach if tugged too firmly - protecting the internal wiring of the unit.

The overlay comprises 21 high density cells which alternate over a 10-12 minute cycle. This provides regular periods of pressure reduction to aid blood and lymphatic flow to vulnerable tissue.

A comforter cover can be used to provide additional comfort and warmth to the patient.



Installation

Unpacking & Inspection

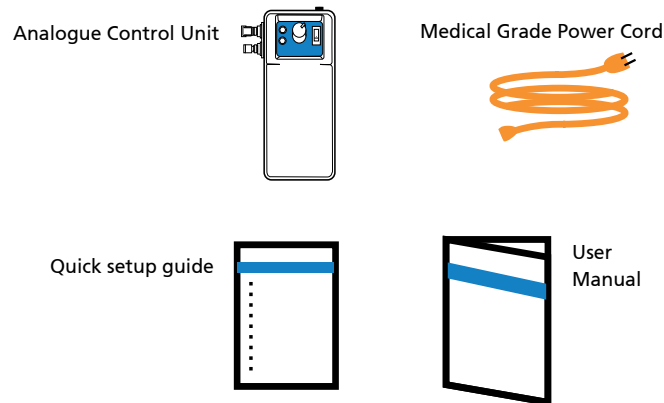
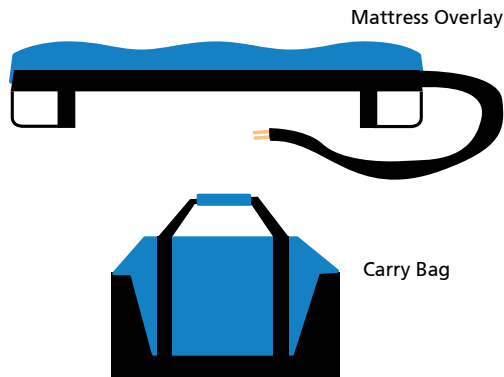
NOTE: It is recommended that all packing materials and instructions be kept in the bag provided in the event that the product has to be shipped to an approved Lifehealthcare Service Centre.

Carefully remove the control unit, overlay and accessories from the shipping cartons. Inspect all items for any damage that

may have occurred during shipping. Any damages, or missing components, should be reported to a Lifehealthcare Service Centre as soon as possible.

The box should contain completely assembled overlay system components consisting of:

- Ultimate75 overlay
- Carry Bag
- Analogue Control Unit
- Medical Grade Power Cord
- Quick Setup Guide
- User Manual



Troubleshooting

Q. The low pressure warning light keeps coming on

A The warning light often activates when the Control Unit senses a loss of pressure somewhere in the system. This can occur if weight suddenly shifts off a particular set of cells. E.g. If the patient is getting into or being lifted out of bed. If the light doesn't go out after 10 minutes then there could be a leak somewhere in the system.

Q. The Control Unit is not working

A Firstly, check that the power cord is properly connected to both wall outlet and Control Unit. If there is a power outage then press the fuse buttons to see if that re-activates the system. If this fails to re-activate the Control Unit then the pump needs to be serviced.

NOTE: If problem is not resolved please contact Lifehealthcare Service Centre.

Troubleshooting

Below are solutions to some of the most frequently asked questions and answers to problems customers have experienced. Solving a problem over the phone is naturally more cost effective than a site visit.

Q. I have turned the pump on and the overlay is not inflating

A The systems can take up to 40 minutes to reach operating pressure: the pump/Control Unit only emits a slight sound – therefore it is necessary to hold the working Control Unit up to their cheek to feel the slight stream of air.

Also, ensure that the quick release connectors are fully seated.

If the system is still not inflating and there is no air from the pump outlets then it may need a compressor replacement

Q. How do I test for compressor failure and pressure switch status?

A Screw the female quick release connector out of the side of the pump (the connector with the button)

Once unscrewed, switch on the Control Unit and hold one finger over the male outlet and one finger over the hole left from unscrewing the female connector.

(If a spare male connector is available, you can connect this into the female outlet to seal it so that it does not have to be unscrewed out of the pump casing.)

With both openings blocked, the low pressure light should flick to normal within 10 seconds – if this does not happen then the pump needs to be opened and inspected. If unsure, return it to Lifehealthcare to be properly pressure tested.

Q. Control Unit will not start.

A Check that the Control Unit is connected to electrical outlet and that the unit is switched on.

*Check the mains plug fuse (3 Amp).
Check both 1 Amp fuses in the base of the Control Unit.*

Q. The overlay is not alternating

A The Control Units are sometimes mistreated on these systems. If handled roughly or turned with too much force the pressure control knob can be lifted and override the maximum pressure stopper ridge. If this occurs, the spring loaded pressure mechanism becomes fully seated and prevents the Control Units from alternating the overlay. You need to gently pry away the control knob and twist the underlying axle slowly anti-clockwise until you hear the hiss of air again. Keep slowly twisting until the spring feels totally released and then tighten slightly clockwise until you feel it catch, then replace the plastic knob with the indicator pointing to the lowest setting. If unsure, return it to Novis Healthcare to be properly pressure tested.

If this occurs on a system, check to see that the static switch has not been activated.

Q. Control Unit running, amber 'Low Pressure Alert' light illuminated, overlay fails to inflate/loses pressure.

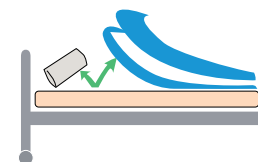
*A Check mattress air hoses are connected to the Control Unit correctly. Check CPR sealing connectors are pushed fully onto the air hoses.
Check all mattress cells are pushed fully onto the air hoses.*

Installation

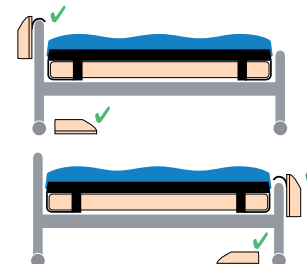
System Installation

The following describes the procedures to follow upon setting up the system for the first time.

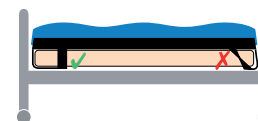
- a) Remove all covers and sheets from the existing mattress



- b) Position overlay, with its top cover, on top of existing mattress and position hose ends at foot or head end of bed for preferred control unit positioning



- c) Secure end straps completely under the mattress. Ensure end straps are not twisted or pulled towards the corners of the mattress

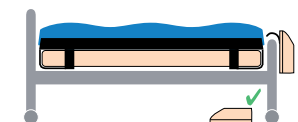


- e) Confirm there are no sharp objects in the immediate area which may risk damage to the overlay/mattress

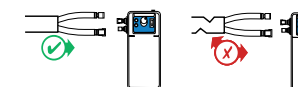
Important: Make sure that the attachment of the overlay does not interfere with the movement or operation of the bed.

Control Unit Activation

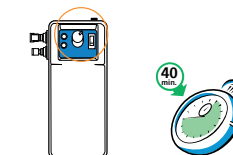
- a) Position Control Unit by its hanging hooks over foot/head board of the bed or on the floor under the bed.



- b) Attach two inflation hoses to Control Unit with the press on the quick release connectors. Ensure air hoses do not kink between overlay, mattress, bed frame and Control Unit.



- c) Insert power cord into Control Unit, then into a **grounded 240 Vac 50 Hz electrical outlet**.
- d) Switch on the power and turn the pressure dial up to maximum to commence inflation.



Allow up to 40 minutes for full inflation.

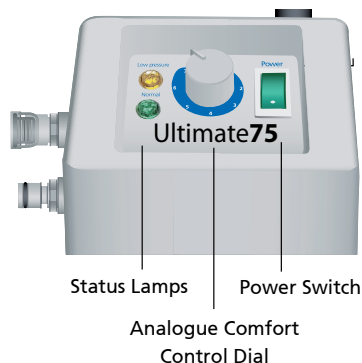
- e) Once ready, the low pressure light will go out - lay the patient on the bed and select the appropriate comfort level.
- f) Perform a bottom out test to ensure that patient is properly suspended by slipping hand under top cover along a deflated cell in sacral area.
- g) Secure sheets loosely enough to ensure they do not interfere with cell alternation

Operation

Basic Features

Control Panel

The Ultimate75 Control Unit front panel is shown in the diagram below.



Overlay Function

Establishing pressure (supine patient)

Once the patient is in place, adjust the dial for the best comfort setting that combines the required pressure, support and comfort.

After approximately 20 minutes, re-assess whether the patient is comfortable and the unit is functioning correctly.

IMPORTANT: When lowering the pressure setting, ensure the patient is not 'bottoming out' (not sufficiently supported by the air cells and therefore coming in contact with mattress) You should be able to slide your hand between the cells underneath the patient's sacral area (bottom) along a cell that is deflated. Ensure patient is in a supine position for this assessment.

Establishing Pressure (inclined patient)

When moving the patient to a more upright position, pressure may need to be increased (approximately 20%) to provide added support and to avoid 'bottoming out'.

NOTE: It is important to return the original pressure setting when the patient returns to the supine position.

IMPORTANT: Wait a minimum of 10 minutes between any adjustment and patient assessment as it may take a full cycle for the system to adjust to any new setting

Operation

System Removal

Transport Function

Overlay Removal

1. Switch off the Control Unit. (If applicable reset the alarm indication on the power-down alarm. Switch off the mains supply and disconnect the power-down alarm from the electrical outlet)
2. Disconnect the inflation hoses from the control unit to release air from the system.
4. Remove the Control Unit, (power-down alarm if applicable) and power lead from the bed and place on the overlay
5. Roll up the mattress and remove from the bed

Overlay Transport Function

1. When preparing for transport mode, it is best if the patient is not inclined but supine. Turn the pressure control knob up to maximum pressure and wait 10 minutes for the setting to take effect.
2. Ensure that the overlay is not currently undergoing an alternation. If not, then turn off control unit and disconnect both hoses. Immediately connect the air hoses together.
3. Once the air hoses are connected together the air pressure will average out between the fully inflated cells and the deflated cells providing an immersive surface for pressure relief during transport.

Bottoming Out Test

1. Ensure system is on alternation mode but is not undergoing an alternation.
2. Unzip top cover just past sacral region.
3. Slip hand under top cover and along a deflated cell under the patients sacrum.
4. If hand can pass under patient then patient is adequately suspended.