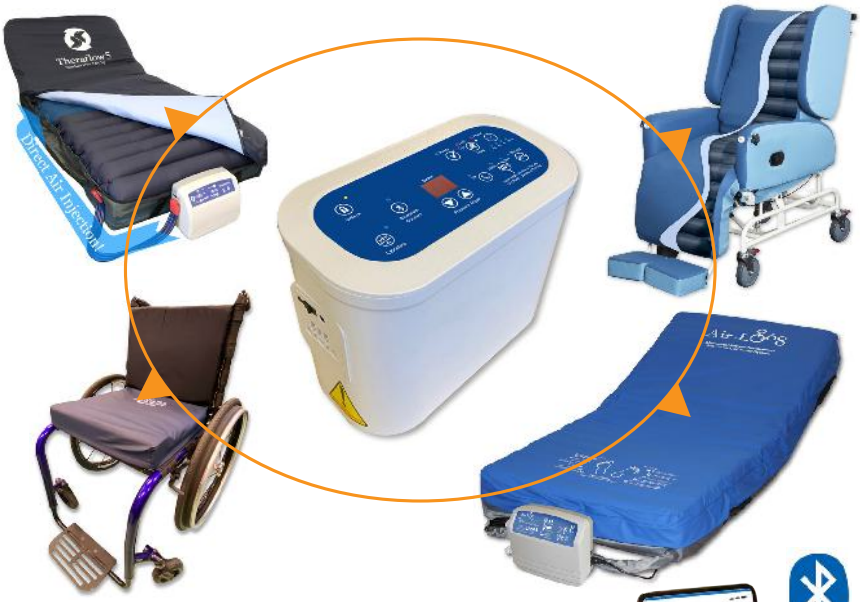
Patient **Support** Systems

MEDICAL • DESIGN • INNOVATION

# NE7 Bluetooth Control Unit Instruction Manual

## NE7 OmniCare

### The Bluetooth pump for every application




### Program for any use on site at the touch of a button!

**Step 1:**
Program to mattress alternation type 1/2 or 1/3
With or without tilt sensor

**Step 2:**
Choose spring hook width for bed end

**Step 3:**
Select connector end for hose size

# Contents

## Care & Cleaning



# System Description

Congratulations on your hire or purchase of a state of the art Bluetooth Control Unit for air alternating therapy systems  This control unit is just one component of a powerful management and control system which allows you to take effective control of your therapy and pressure care needs without direct access to the control panel at the foot end of the bed..

The control unit uses Bluetooth technology to remotely control the settings, and monitor the performance of each function - all in real time.

The control unit itself is powerful yet silent with spring loaded hang hooks which can be lengthened by replacement with additional accessory hooks.  The electronic valve system not only allows for instant air release ensuring better therapy, but also has the capacity to be programmed to connect with most 2 or 3 hose alternating overlays or mattress replacements*.

Your NE7 Bluetooth Control unit has these following features.

## NE7 Control Unit:

- Powerful yet quiet 10 lpm compressor with non-continuous operation
- Electronic valves for instant pressure release and programable therapy modes.
- Auto start up with choice of three modes - Therapy, Static and Transfer
- Choice of four extra comfort settings or Auto Sensor Weight detect when connected to Theraflow 5 or 8 or Airlo5 or 8 alternating systems with their King size or hybrid variants.
- Auto Incline sensor for adding extra support pressure (Excluding AirLo3)
- Auto-lock control panel function after 5 minutes without user input
- Spring loaded hang hooks for secure footboard mounting

## Bluetooth™ Management Application

- Remote control of all control unit functions and modes.
- Full function history for all time periods with save and upload functionality.
- Patient basic bio-metric assessment and care information.

*Not compatible with other systems using sensor wires or 4+ hoses or 1 in 4 alternation cycles

**The NE7 control unit is supplied with the following components**

1 NE7 Control Unit

2 Operating Manual with Warranty Information

3 QR codes at rear for downloading free iOS or Android Application

**Accessories**

4 Five Metre IEC Power Cord (black)

5 Hose Connector and Transport Cap

6 Hose Connector Type B

7 Longer hang hooks for wider mounts

8 Sensor Cable for AirLo5/8

9 Domed Sticker selection

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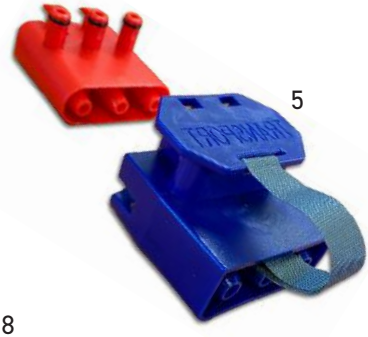

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## Important Recommendations for General Use of System

The NE7 Control Unit and its connected air alternating overlay, air/foam hybrid or mattress replacement system is intended for use in hospital, palliative, aged care home care and community settings

The NE7 Control Unit with a 10 litre motor is designed to power and provide air alternation therapy to the following overlays and mattresses.

AirLo3: 20-120kg  AirLo5/King: 20-150kg  AirLo7/King: 20-150kg
AirLo8/King: 20-200kg Theraflow8/King 20-200kg

These are standard weight ranges based on a patient with normal weight distribution placed in a supine, reclined position.

The NE7 Control Unit is also designed to be connected to 3rd party air systems either 1in2 or 1in3 alternation types dependant on hose diameter compatibility with the two available NE7 hose connector sizes.

## Indications

The NE7 Control Unit and its connected mattress is indicated for patients suffering from low blood flow or ischemia in the extremities.  These patients may also benefit from the application and release of pressure to encourage blood flow in these areas.

## Contra-Indications

Patient conditions for which an NE7 powered alternating system would be contra-indicated would be the following.

- Non-stable spinal cord injury
- Cervical traction
- Any patient exhibiting unease or agitation on alternating surfaces
- Patients weighing under 20kg or over 200kg or otherwise too wide for a standard single (<90cm) or king single (107cm) mattress width.

## Intended Care Setting

The following care settings are recommended for the TheraCloud alternating overlay or mattress replacement system.

- Home care
- Aged care facilities
- Palliative care
- General or extended rehabilitation
- General hospital
- Intensive care units

## Safety Protocols

✓ Ensure that the control unit is hung securely from the foot board at the foot end of the bed. If a more secure lower hanging point is available which would prevent the control unit sliding off the end of the foot board then use this. **Never place an operating control unit on the floor or under the bed**

✗ Do not open the control unit as there is risk of electric shock. Casings should only be opened by approved technicians or warranty is voided

✗ Avoid blocking the air intake filter at the rear of the control unit

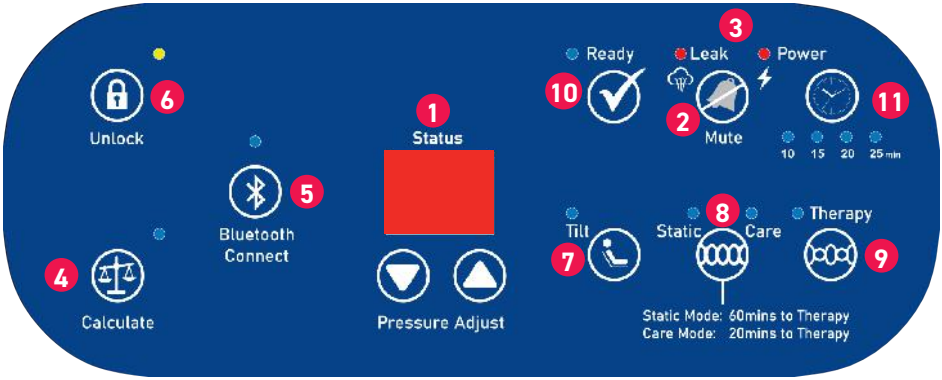
✓ Ensure that the power leads are undamaged and properly connected

✗ Do not spill any liquids onto the control unit. If a spillage occurs then:
i) Turn off power to the control unit at the wall
ii) Disconnect the power cord from the control unit
iii) Wipe dry any excess moisture on the external casing
iv) Check that the interior of the power connector, plug and switch is dry

Failure to do the above may lead to component corrosion and or electrical safety hazards to carers and patients

✗ Do not use system in the presence of any flammable anaesthetic mixture with air, nitrous oxide or oxygen or in the presence of smoking materials or open flame - risk of explosion

# Control Unit Operation




## 1 LED Numeric Display Window/Pressure Adjust

Displays auto or manual and program type - select to manualy adjust e.g; "**-II**" 20-30kg, "**-I**" 35-55kg, "**AU**" 55-85kg, "**I**" 85-105kg, "**II**" 105+kg,

## 2 Mute Button

Cancels any audio alarm for 20 minutes

## 3 LED Fault Indicators

When lit, indicates either a pressure leak or power fault

## 4 Auto Weight Calculation

Pressing once enables auto weight calculation function on select systems

## 5 WiFi Connection indicator

Press to enable or cancel connection

## 6 Unlock Button (will auto-lock after 5 minutes)

Press once to Lock (LED lit) or unlock

## 7 Incline Mode (increase pressure by 20mmHg)

If auto, then LEDs indicate sensor activation - otherwise press to activate

## 8 Static or Care Mode Selection

Press to select between Static and Care Modes - LEDs indicate which.

## 9 Therapy Mode Selection

Selects Therapy Mode - Will activate automatically and defaults to 10mins

## 10 Ready Indicator

LED lights when unit has completed startup successfully

## 11 Alternation Time

Default at 10 minutes - select to choose 15, 20 or 25 minutes

## Operation of the NE7 Control Unit

The NE7 control panel has been designed for ease of use and programmed for patient safety. All static modes auto time out to active therapy mode if left and the system automatically resets to therapy mode after the startup cycle has completed. Other safety features include an automatic control panel lockout 6 which engages after 5 minutes without any user input.

## Using the Calculate function 4

Selecting the Calculate Button 4 activates the patient weight calculation function. It is only accurate if the patient is reclined and supine.

## Programming for different therapy systems

Selecting and holding the Tilt Button 7 for six seconds changes the alternation program to suit the type of mattress the NE7 is connected to.

The unit beeps 3 times when each diffent program activates.

**The active program is identified in the LED window and cycles as follows.**

"8H" **1in3 Alternation** (3 hose) Full 20cm high mattress replacement systems standard and king size

"85" **1in2 Alternation + Static** (3 hose with centre hose static)
**King Size** 20cm mattress replacement with cell in cell static zone

"8" **1in2 Alternation + Static** (3 hose with centre hose static)
**Standard Size** 20cm mattress replacement with cell in cell static zone

"5A" **1in2 Alternation Hybrid** (2 hose) 12cm cell systems with integrated foam sections and hybrid mattress replacements standard and king

"5" **1in2 Alternation** (2 hose) 12cm overlays standard and king

**Tilt Sensor Function.**

"-P" **Tilt Sensor Deactivated -** To engage this Mode, press and hold both Pressure Adjust buttons together until the "-P" symbol displays

"P" **Tilt Sensor Activated** - To engage this Mode, press and hold the Up Arrow for pressure adjust. The tilt function will now automatically activate if the bed head is raised and the unit will alarm if the tilt sensor is disconnected from the side of the control unit.

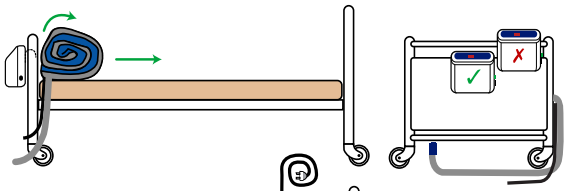
Air-LO™ 5

Alternating Mattress Overlay System

# Auto Quick Setup Guide

1. Remove overlay roll from carry bag and lay on bed base at the foot end.

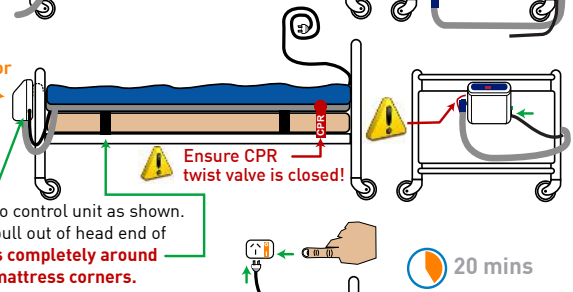
   Try to avoid hanging the control unit in an exposed position if a lower hang point is available.



2. Connect air hose to control unit **(Ensure blue connector clicks into place)**

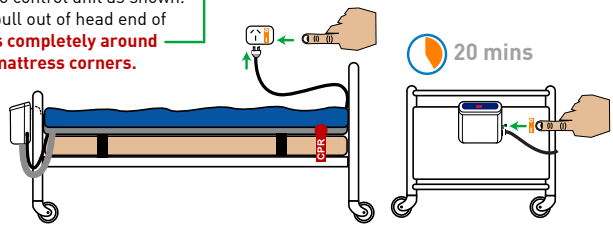
   Connect Sensor Jack to its Port above the air hoses. **(Control Unit will NOT operate without sensor!)**

   Connect male power cord to control unit as shown. If more length is required pull out of head end of mattress. **Fit base elastics completely around mattress not just around mattress corners.**



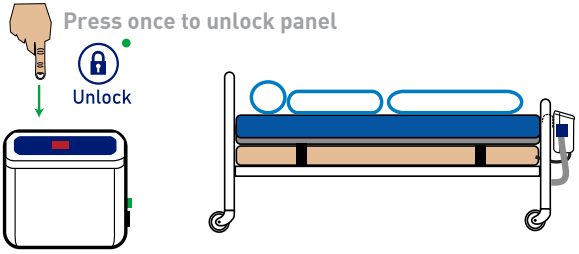

3. Connect power cord to the wall socket. Turn on control unit at switch near power socket.

   Overlay will take 20 minutes to inflate.




4. **Once mattress has inflated Ready LED will activate.**

   The mattress will automatically engage therapy mode if no user input is detected




## 5 Control Unit Operation

**Press and hold for 2 seconds to auto calculate**

**The AirLo5 Automatic Sensor System is designed to automatically adjust to patient weight, position & profile**

Press the pressure setting button at left LED symbols will rotate. The system takes 4 minutes to adjust to the patient's weight

**Comfort:** Select up or down arrows for comfort

**Active Mode:** Default Mode for active alternation therapy

**Care Mode:** Maximum pressure for patient transfers
Will default to Active Mode after 20 minutes

**Static Mode:** Engage for transport or meals for comfort
Will change back to alternation after 1 hour

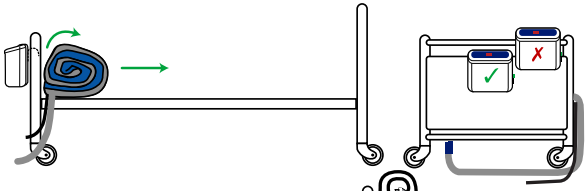
Air-LO™ 8

Alternating Mattress Overlay System

# Auto Quick Setup Guide

1. Remove overlay roll from carry bag and lay on bed base at the foot end.

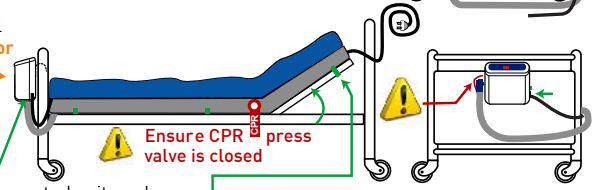
   Try to avoid hanging the control unit in an exposed position if a lower hang point is available.



2. Connect air hose to control unit **(Ensure blue connector clicks into place)**

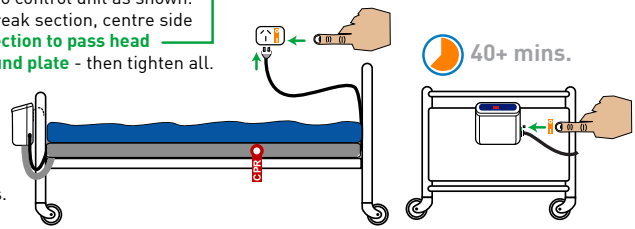
   Connect Sensor Jack to its Port above the air hoses. **(Control Unit will NOT operate without sensor!)**

   Connect male power cord to control unit as shown. Clip base straps to knee break section, centre side rail and then **raise head section to pass head end strap completely around plate** - then tighten all.



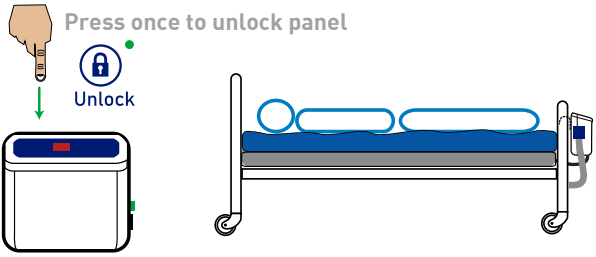

3. Connect power cord to the wall socket. Turn on control unit at switch near power socket.

   Mattress may take 40 mins. or more to inflate.




4. **Once mattress has inflated Ready LED will activate.**

   The mattress will automatically engage therapy mode if no user input is detected




## 5 Control Unit Operation

**Press and hold for 2 seconds to auto calculate**

**The AirLo8 Automatic Sensor System is designed to automatically adjust to patient weight, position & profile**

Press the pressure setting button at left LED symbols will rotate. The system takes 4 minutes to adjust to the patient's weight

**Comfort:** Select up or down arrows for comfort

**Active Mode:** Default Mode for active alternation therapy

**Care Mode:** Maximum pressure for patient transfers
Will default to Active Mode after 20 minutes

**Static Mode:** Engage for transport or meals for comfort
Will change back to alternation after 1 hour

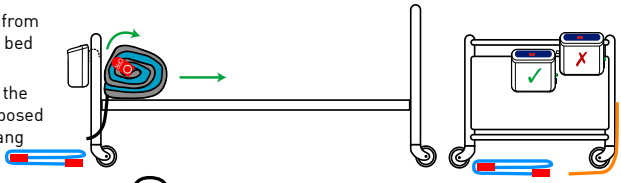
# Theraflow™ 8

Alternating Mattress Replacement System

## Quick Setup Guide

1. Remove overlay roll from carry bag and lay on bed base at foot end.

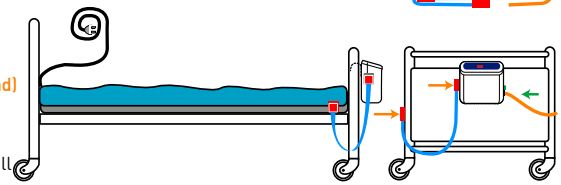
   Try to avoid hanging the control unit in an exposed position if a lower hang point is available.



2. Connect air hose to control unit & mattress (Connector can attach either way around)

   Connect male power cord to control unit as shown.

   If more length is needed, pull out of head end of overlay.

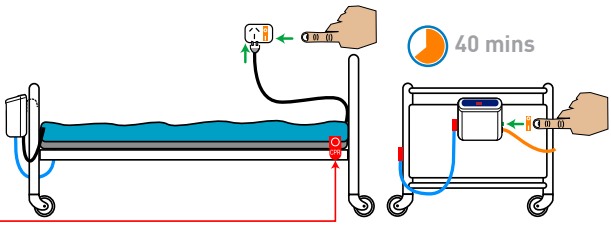


3. Connect the power cord into a nearby wall socket.

   Turn on control unit at switch near power socket.

   The mattress will take up to 40 minutes to inflate.

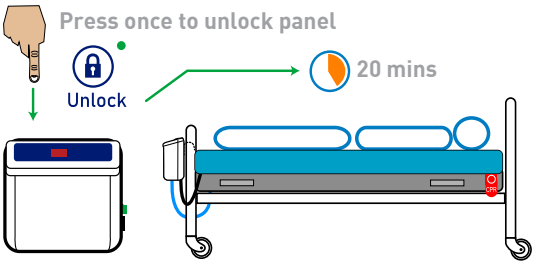
   **Ensure CPR is closed**




4. Press Unlock button to activate control panel.

   **If patient needs maximum support for transfer, then engage Care Mode at least 5 minutes before patient transfer onto mattress**

   Care Mode will auto disengage after 20 mins.




5. ## Control Unit Operation

**The Theraflow System automatically defaults to a medium pressure setting, this can be adjusted as follows.**

| | |
|---|---|
| **Comfort:** | Select up or down arrows for comfort |
| **Active Mode:** | Default Mode for active alternation therapy |
| **Care Mode:** | Maximum pressure for patient transfers<br>Will default to Active Mode after 20 minutes |
| **Static Mode:** | Engage for transport or meals for comfort<br>Will change back to alternation after 1 hour |

# The Alliana Air Active Day Chair
# Operator's Guide


1. **Ensure all castors are locked when placing a user in the chair and exiting the chair!**
   **Open both footrests to ensure access to the seating surface is not obstructed.**

2. Once a new user is in the chair and footrests back in place, ensure that setting is on default "AU" and "Therapy" mode
   Download App via QR Codes below
   Open App and connect to chair
   (Refer to Manual P14)


3. Allow pressure sensors to log a full alternation cycle (10 mins.)
   If pressures between inflated and deflated cells are less than 20mmHg for a user 50kg or higher then increase comfort pressure to setting "I" or "II" to ensure sufficient therapy is received.
   (Refer to Manual P18-19)

Apple

**Comfort Control Guide (KGs)**

| -II | -I | AU | I | II |
|---|---|---|---|---|
| 20-35 | 35-55 | 55-85 | 85-105 | 105+ |

Android

Battery Charge App

**Comfort:** Select up or down arrows for comfort

**Active Mode:** Default Mode for active alternation therapy

**Care Mode:** Maximum pressure for patient transfers
Will default to Active Mode after 20 mins.

**Static Mode:** Engage for transport or meals for comfort
Will change back to alternation after 1 hour

4. **Ensure charging cable doesn't hang down on floor while in use.**
   **Wrap power cord around handle or zip into Bag.**
   **ALWAYS CHARGE UNIT WHEN NOT IN USE.**
   **UNPLUG FROM WALL WHEN IN USE.**

## Operation of the NE7 Control Unit Bluetooth Application

The NE7 control unit App has been designed for ease of use and the convenience of monitoring and control within the Bluetooth range of the unit.

## Downloading the Application

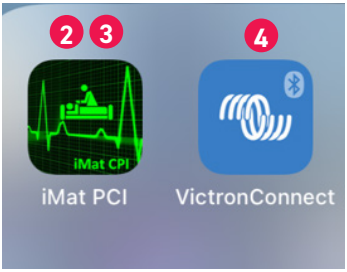
The Application is available for free download from the Apple or Android stores and is designed to work on any relevent Apple or Android mobile devices from phones to tablets. The Victron Bluetooth charging App 4 is also available for the Alliana Active Day Chair.

The links can be found for each application on the rear of the control unit next to the compliance plate or from the optional dome decal if placed on the control panel as shown below right.






Once downloaded, the Application Icon can be selected from the desktop

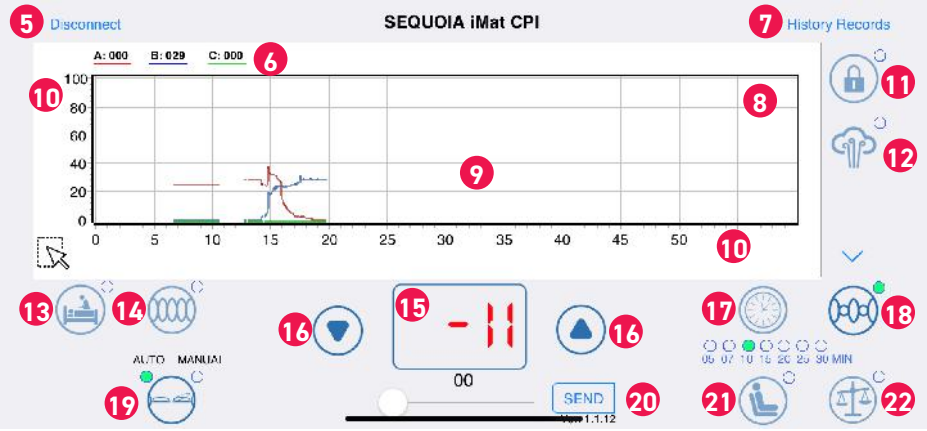



Once opened from the desktop, the home screen is displayed - (see opposite top right). The user then needs to connect to the correct system by selecting the "Connect" tab on the top left corner of the home screen. 5

The correct system can be identified by selecting the correct BT code 1

## The NE7 Control Unit Homescreen

The NE7 control unit Homescreen has the following functions and can be viewed in both landscape and portrait views. Landscape view is used below.




### 5 Bluetooth Connect/Disconnect function

Select for new connection window to connect to any units in range

### 6 Pressure Sensor Numerical Data

Displays each cell section pressure data in mmHg in real time

### 7 History Records

When connected, a history record is generated accessed from this tab

### 8 Sensor Data Grid Screen

Displays pressure data in real time

### 9 Pressure Sensor Line Data

Displays each cell section pressure data as a different coloured line

### 10 Sensor X/Y Axis Data

Y Axis Data is pressure in mmHg with X Axis Data being Time (0-60mins.)

### 11 Lock mode

Select to lock the control panel - will lock automatically after 60 secs.

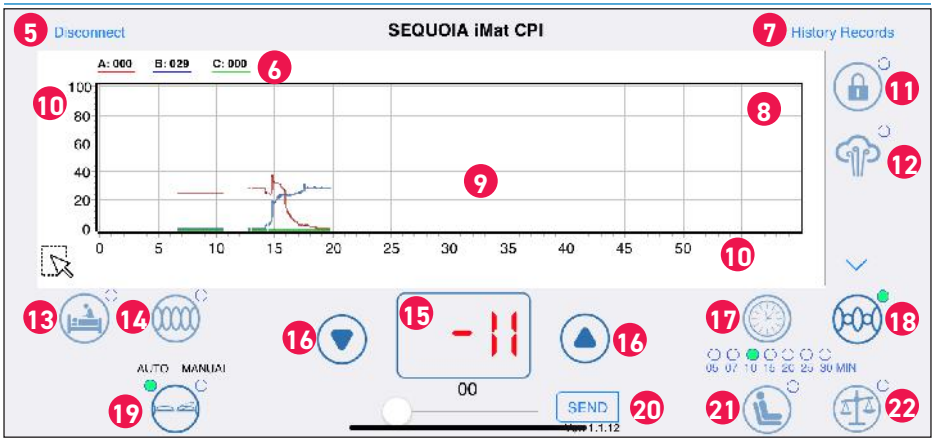
### 12 Fault alarm

Indicates a pressure or power fault

### 13 Care Mode

Inflates all cells to max. pressure for 20 mins. for max. support on edge.

## The NE7 Control Unit Homescreen - continued




### 14 Static mode

Select to inflate all cells to set pressure for 60 minutes therapy break.

### 15 LED status window

Displays status of set pressure, program or mode selection

### 16 Manual pressure override

Select either up or down arrows to override the auto settings for comfort.

### 17 Alternation cycle time

Select to alter the cycle time. Default is 10 then 15/20/25 - LED indicated.

### 18 Therapy mode

Default mode - can also be manually selected if on another mode

### 19 Sensor activate/deactivate

Select to activate or deactivate the auto tilt position sensor

### 20 Manual pressure selection

Use slider to select pressure maually (under LEDs) then select “SEND”

### 21 Program selection for mattress type

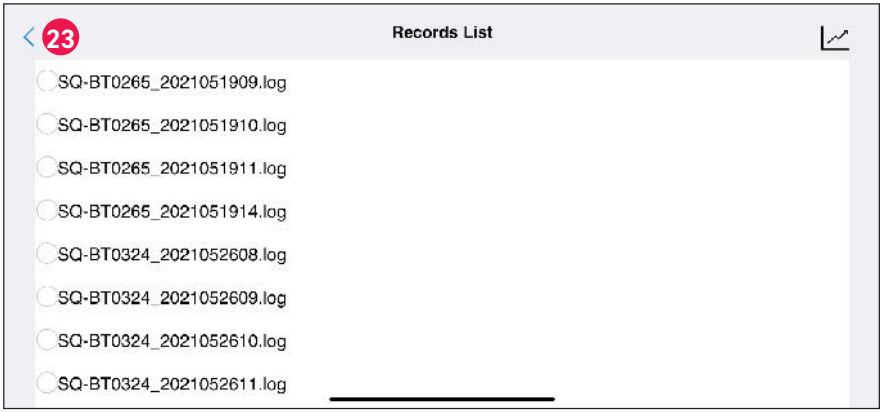
Select to cycle through available programs (see page 9 for details)

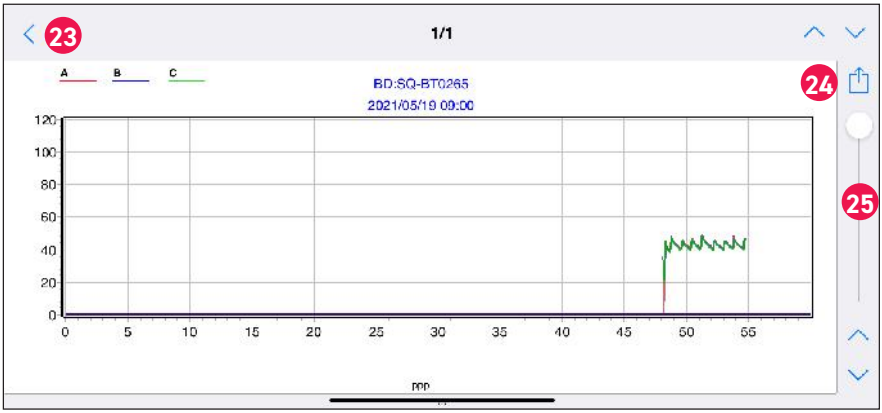
### 22 Auto Weight Detect

Select to start auto weight calculation function. Patient must be on mattress and reclined in a supine position for best results.
Will not work on a third party mattress or with auto tilt sensor inactive.

## 7 History Records

Screen below appears when tab selected. Select chosen history record to view the chosen log. The icon at the top right corner, when selected, will open the log window below. Each log is named in date and time order.




## 23 Return to previous screen

Select to return to the records or previous Home screen

## 24 Record Export

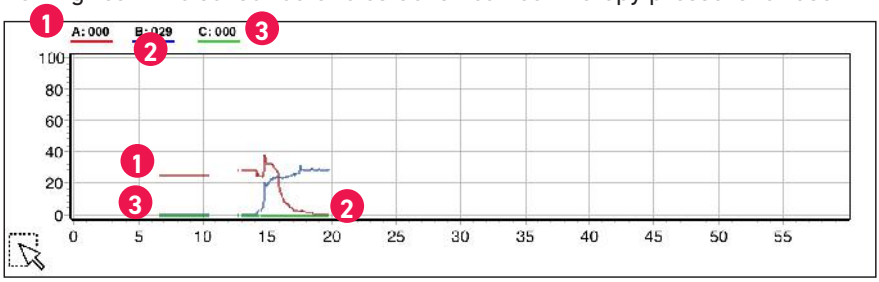
Select to export record as a message or email

## 25 Time selection

Slide tab to choose times along graph readings for exact pressures

## Use of the Pressure Sensor Data Screen for Therapy

The NE7 Bluetooth Application has three main uses.
1. Remote control of all panel functions
2. Remote monitoring of system functions within Bluetooth signal range.
3. Viewing real time sensor data to establish correct therapy pressure for user.




A typical sensor data log above shows the following in a 1in2 alternation cycle.

The vertical axis indicates pressure in millimeters of mercury (mmHg)
The horizontal axis indicates time - each screen covers a 60 minute period

In a 1in2 alternation system, the cell sets are divided into A and B series cells positioned alternately down the length of the mattress or seat system.

As one cell set is inflated, the other is deflated ensuring pressure release therapy for the user.

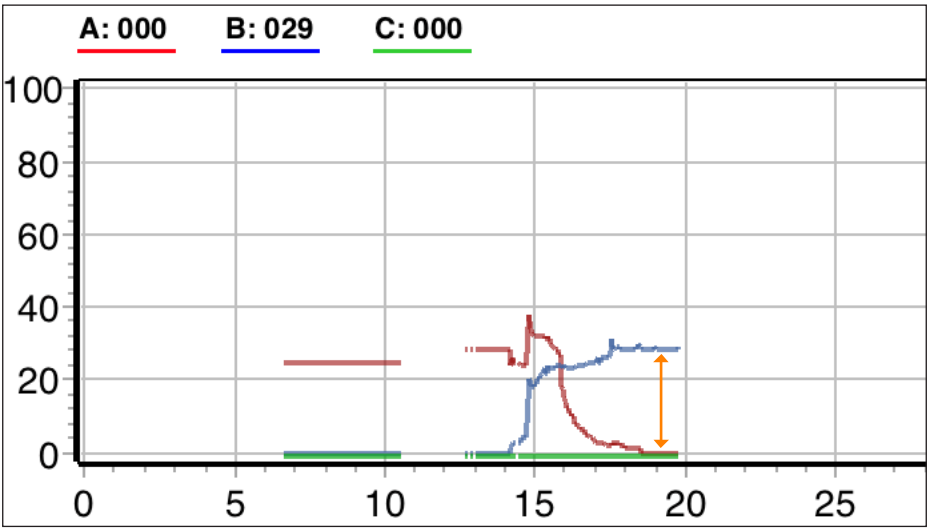
In the pressure graph above, the A series cells 1 are represented by the "A" numerical data and the **RED** line on the graph below.

The B series cells 2 are represented by the "B" numerical data and the **BLUE** line on the graph below.

The C series cells 3 are represented by the "C" numerical data and the **GREEN** line on the graph below. This data is only in use for 1in3 mattress systems such as the Theraflow and is not used in this case.

In order to ensure that sufficient therapy is being applied to the user, there must be enough pressure in the inflated cell sets at each alternation to properly suspend the patient. If there is not enough pressure in these cells then the user sinks down towards the bedframe and insufficient pressure release is provided over the deflated cell sets. In a worse case scenario, the user may bottom out on the bed frame causing pressure injury if not addressed in time.

The graph on the opposite page is now enhanced below to display the sensor data in more detail.




The difference in pressures between the A and B series cells is represented in real time by the NE7 sensor suite.

In order to establish whether the user is receiving enough pressure to support them during each alternation **a good general rule to follow is to ensure that at least 20mmHg is observed between each cell set** on each alternation for a user weighing 50kg or more. This is indicated above by the orange line.

The graph example above shows a pressure difference of 29mmHg between inflated and deflated cell sets.

Use the up and down arrows on the control panel to override any existing settings in order to increase or decrease the pressures as needed.

## Getting the balance right

Users come in many shapes, sizes and weight distributions and have different needs. Some have very sensitive skin conditions and some need to be permenantly raised. These issues need to be taken into account at all times. Whilst sufficient pressure is vitally important to effective therapy, too much can cause injury as well.

It is highly recommended that these settings be used carefully and in consultation with a suitably qualified health professional.

## On-Site Cleaning

The following on-site cleaning procedure is recommended for top cover and control unit. Note that a summary of the below is printed at the foot end flap of the top cover. Do not immerse the control unit in water!

1. Ensure gloves are worn and all disinfection and occupational health and safety protocols of the facility are adhered to.
2. Wipe down with a clean cloth using a disinfectant solution comprising of hand hot water and a neutral detergent or with a sodium hypochlorite solution (0.1% or 1000 parts per million available chlorine.
   Proprietary disinfectants may be used provided manufacturer's instructions are followed.
3. All cleaning agents and disinfectants must be thoroughly rinsed off and the surface dried before storage or re-use.
   Failure to do this may result in the accumulation of reagent that could damage the control unit casing and or react with the bed frame.

## On-Site Cleaning for Hyperstretch Coverlets

The following procedures are printed on each coverlet.

## Service Schedule

All Patient Support Systems control units have been designed for easy maintenance and service. The following schedule should be used as a guide for maintaining the optimal performance of the system.

## When Necessary and Between Patient Use

- **On site clean and disinfection of casing.**
  See previous cleaning and disinfection instructions.
  Do not use system without a foot board in place securely on the bed end.
- **Inspection of control buttons** for membrane strike through or damage.
- **Inspection of hose connector** for looseness or leaking.
- **Inspection of electrical cords** for proper connection, damage and any possible interference with moving bed parts
- **Inspection of hang hooks.** Between patient use or every 6 months -turn control unit over and inspect the condition and spring loading of the hang hooks. If any are excessively damaged, call Patient Support Systems or their authorised agent for replacement or repair.

## Air Filter Replacement

To maintain optimal performance of the control unit, it is recommended that the air filter, located at the rear of the unit be checked, cleaned or replaced every 6 to 12 months depending on the air quality where the system is being used.

1. Using your finger, unclip the top notch and detach the cover off the filter casing.

2. Remove the cover and turn upside down and inspect - clean if dust or grit is detected.


3. To clean, remove the foam filter from inside the cover. This filter can either be washed or air cleaned and re-inserted after dry or otherwise replaced.

| Problem | Cause | Solution |
|---|---|---|
| Control Unit does not operate or fault light flashes & alarm sounds   | There may be a disconnection in the power supply | 1. Ensure all cord connections from wall plug, breakaway connection at head end and pump connector are properly seated in their sockets.<br>2. Check Control Unit fuse under power socket - flick open with small flat head screwdriver and replace fuse if necessary.<br>Only use fuse type 10Amp 250Volt |
| The fault light below flashes and alarm sounds   | There is a leak somewhere in the cell or air hose connection system | 1. Ensure that the CPR module is closed and the connector is properly attached to the side of the control unit.<br>2. Ensure that the sensor cable is properly attached to the side of the control unit under the hoses.<br>3. Select Care Mode for maximum pressure and check for any air “hiss” from the cell section. If you still cannot hear - wet the back of your hand and run your hand upside down along the top of the cells to find any air leak.<br>Also look for any deformed cells as these may have internal weld failures leading to leaks of air between separate internal chambers.<br>Once the faulty cell is found - remove and replace with the same type.<br>4. Look for any disconnection between hoses and their T or L connectors. Don’t forget to also check whether the air hoses are correctly connected to each of the cells. |
| Cell or Cells rising up above adjoining cells | A cell end press stud has disconnected. | 1. Open top cover and check along the sides of the inside base section. It is easy to see immediately if any of the external press studs have become disconnected.<br>If the studs are faulty -then replace. |

## NE7 Control Unit:

| | |
|---|---|
| Dimensions: | W 27.5 x H 20 x D 14cm |
| Weight | 2.5kg |
| Mode of Operation | Non-Continuous - Electronic Valve |
| Power Rating | 240V 50Hz 12VA |
| Transport Function | Hose Connection Cap |
| Transport Function TheraFlow | Hose Disconnect - Mattress End |
| Air Flow | 10 Litres per Minute |
| Auto Startup | 3 |
| Comfort Override Control | 3 |
| Self Diagnostics | 3 |
| Audible/Visual alarm | 3 |
| Mute Function | 3 |
| Static Mode | Auto Time out - 60 minutes |
| Care Mode | Auto Time out - 20 minutes |
| Incline Mode | Auto or Manual select |
| Auto Anti Tamper - 2 second unlock function | 3 |
| CE Certification and C-Tick Listed N27882 | ✓ |

**Warranty**

2 Years Pump

ARTG: 175810

# APPENDIX A: EMC INFORMATION

## Guidance and Manufacturer's Declaration- Electromagnetic Emissions:

This device is intended for use in the electromagnetic environment specified below. The user of this device should make sure it is used in such an environment.

| Emissions Test | Compliance | Electromagnetic Environment-Guidance |
|---|---|---|
| RF emissions CISPR 11 | Group1 | The device uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment |
| RF emissions CISPR 11 | Class B | |
| Harmonic emissions IEC61000-3-2 | Class A | The device is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network. |
| Voltage fluctuations / Flicker emissions IEC61000-3-3 | Complies | |

## Guidance and Manufacturer's Declaration- Electromagnetic Immunity:

This device is intended for use in the electromagnetic environment specified below. The user of this device should make sure it is used in such an environment.

| Immunity Test | IEC60601 test level | Compliance | Electromagnetic Environment-Guidance |
|---|---|---|---|
| Electrostatic Discharge (ESD) IEC61000-4-2 | ±6kV contact<br>±8kV air | ±6kV contact<br>±8kV air | Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%. |
| Electrical fast transient/ burst<br>IEC61000-4-4 | ±2kV for power supply line<br>±1kV for input/out line | ±2kV for power supply line<br>±1kV for input/out line | Mains power quality should be that of a typical commercial or hospital environment. |
| Surge<br>IEC61000-4-5 | ± 1 kV line(s) to line(s)<br>± 2 kV line(s) to earth | ± 1 kV line(s) to line(s) | Mains power quality should be that of a typical commercial or hospital environment. |
| Voltage dips, short interruptions and voltage variations on power supply input lines<br>IEC61000-4-11 | <5 % $U_T$ (>95 % dip in $U_T$)for 0,5 cycle<br>40 % $U_T$ (60 % dip in $U_T$)for 5 cycles<br>70 % $U_T$ (30 % dip in $U_T$)for 25 cycles<br><5 % $U_T$ (>95 % dip in $U_T$)for 5 sec | <5 % $U_T$ (>95 % dip in $U_T$) for 0,5 cycle<br>40 % $U_T$ (60 % dip in $U_T$) for 5 cycles<br>70 % $U_T$ (30 % dip in $U_T$) for 25 cycles<br><5 % $U_T$ (>95 % dip in $U_T$) for 5 sec | Mains power quality should be that of a typical commercial or hospital environment. If the user of this device requires continued operation during power mains interruptions, it is recommended that the device be powered from an uninterruptible power supply or a battery. |
| Power frequency (50/60Hz) magnetic field<br>IEC61000-4-8 | 3 A/m | 3 A/m | Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment. |
| NOTE: $U_T$ is the a.c. mains voltage prior to the application of the test level | | | |

## Recommended separation distances between portable and mobile RF communications equipment and this device:

This device is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled.

The customer or the user of this device can help prevent electromagnetic interference by maintaning a minimum distance between portable and mobile RF communications equipment (transmitters) and this device as recommended below, according to the maximum output power of the communications equipment.

| Rated maximum output power of transmitter W | Separation distance according to frequency of transmitter m | | |
|---|---|---|---|
| | **150 kHz to 80 MHz** $d = 1.2\sqrt{P}$ | **80 MHz to 800 MHz** $d = 1.2\sqrt{P}$ | **800 MHz to 2,5 GHz** $d = 2.3\sqrt{P}$ |
| 0.01 | 0.12 | 0.12 | 0.23 |
| 0.1 | 0.38 | 0.38 | 0.73 |
| 1 | 1.2 | 1.2 | 2.3 |
| 10 | 3.8 | 3.8 | 7.3 |
| 100 | 12 | 12 | 23 |

For transmitters rated at a maximum output power not listed above, the recommended separation distance 'd' in metres 'm' can be estimated using the equation applicable to the frequency of the transmitter where 'P' is the maximum output power rating of the transmitter in watts 'W' according to the transmitter manufacturer.

**Note 1:** At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

**Note 2:** These quidelines may not apply in all situations. Electromagnetic propogation is affected by absorption and reflection from structures, objects and people.

## Customer "Warranty Against Defect" Statement

Patient Support Systems Pty Ltd warrants each of its products to perform in accordance with published specifications for specified time periods, when subjected to normal, proper and intended use.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if goods fail to be of acceptable quality and the failure does not amount to a major failure.

Patient Support Systems Pty Ltd warrants that their products and approved parts sold under this warranty:

1. Will be free from defects in materials and workmanship, and shall conform to and perform in accordance with the related documentation supplied by Patient Support Systems Pty Ltd including specifications and instructions on product.
2. Will comply with the CE and UL standard quality requirements in force at the time of manufacture.

## Commencement of Warranty Period

The duration of the Warranty is a maximum period of two (2) years for control units and for soft goods or as specified per individual product. The Warranty period is two (2) years for Hospitals and intensive care environments and commences and is calculated from the date of delivery to you from a Patient Support System's authorised agent.

Warranty repairs do not extend the length of the warranty period. All replaced parts and products on which refunds are made become the property of Patient Support Systems Pty Ltd. New or reconditioned parts and products may be used in the performance of warranty service. Customers will be charged for repair or replacement of the product made after the expiration of the warranty period, at Patient Support Systems Pty Ltd's or their authorised agent's rates and terms then in effect.

## Warranty Conditions

Patient Support Systems Pty Ltd's obligations pursuant to this Warranty are conditional upon:

1. Proof of purchase being presented with any claim.
2. Whole product claims will require matching serial numbers for the base, top cover and control unit.
3. All product installation being undertaken in strict accordance with instructions provided with the Product.

4. The Product consisting of only Patient Support Systems Pty Ltd approved parts.
5. Any Warranty claim being made within the Warranty periods specified above.
6. No misuse or damage either wilful or accidental caused to the Product by freight agents, distributors or end users.

Warranty terms and conditions are subject to change at any time without notice.

## Warranty Claims Procedure

In the event of a product defect during the Warranty period, the customer should

- Contact Patient Support Systems Pty Ltd or its authorized agent
- Provide proof of purchase and date of delivery
- Patient Support Systems Pty Ltd or its authorized agent will, at their discretion, unless otherwise provided by law:

- correct the defect by product repair without charge for parts and labour; or

- replace the product with the same or similar model; or refund the purchase price.

## Warranty Exclusions

This Warranty does not cover:

1. Components not specifically designated by Patient Support Systems Pty Ltd as being eligible for this Warranty including but not limited to consumables (such as fuses).
2. Patient Support Systems Pty Ltd components not supplied by it or its authorized dealers.
3. Defects resulting from non-compliant or improper Product installation, testing, use, repair or storage.
4. Unauthorized attachment, removal, or alteration of any part of the Product.
5. Damage due to loading in excess of the weight capacity displayed on the Product specifications.
6. Normal “wear and tear” as determined by Patient Support Systems Pty Ltd.
7. Cosmetic damage, stains, punctures, cuts, damage to electrical cords, rips or tears, dents, electrical overload, surge, spikes and or lost/missing parts.
8. Abuse, misuse, neglect, accident or any other condition whatsoever that is beyond the control of Patient Support Systems Pty Ltd.
9. Use of the Product for purposes other than those for which it was designed
10. Failure to monitor or operate the product in accordance with applicable specifications and good industry practice.

## Warranty Limitations

1. Patient Support Systems Pty Ltd, its distributors, dealers, officers, directors, employees or agents shall have no liability or responsibility to any customer, other person or entity with respect to any liability, loss or damage caused directly or indirectly by use or performance of the Product or arising out of any breach of this Warranty, including but not limited to any damages resulting from inconvenience, personal injury, loss of time, property, revenue or profit or any indirect, special, incidental or consequential damages, even if Patient Support Systems Pty Ltd or its authorized dealers have been advised of the possibility of such damages.
2. The sole remedy for breach of the limited warranty granted herein shall be repair or replacement of the Patient Support Systems Pty Ltd products.
3. Some states in the United States and countries elsewhere do not allow the limitation on how long an implied warranty lasts or the exclusion of incidental or inconsequential damages, so the above limitations on exclusions may not apply.
4. This limited Warranty gives you specific legal rights and you may also have other legal rights, which vary from state to state or country to country.

No salesperson, representative, agent or authorized dealer of Patient Support Systems Pty Ltd is authorized to make any guarantee, warranty, or representation in addition to the foregoing Warranty.

Patient **Support** Systems
MEDICAL • DESIGN • INNOVATION

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