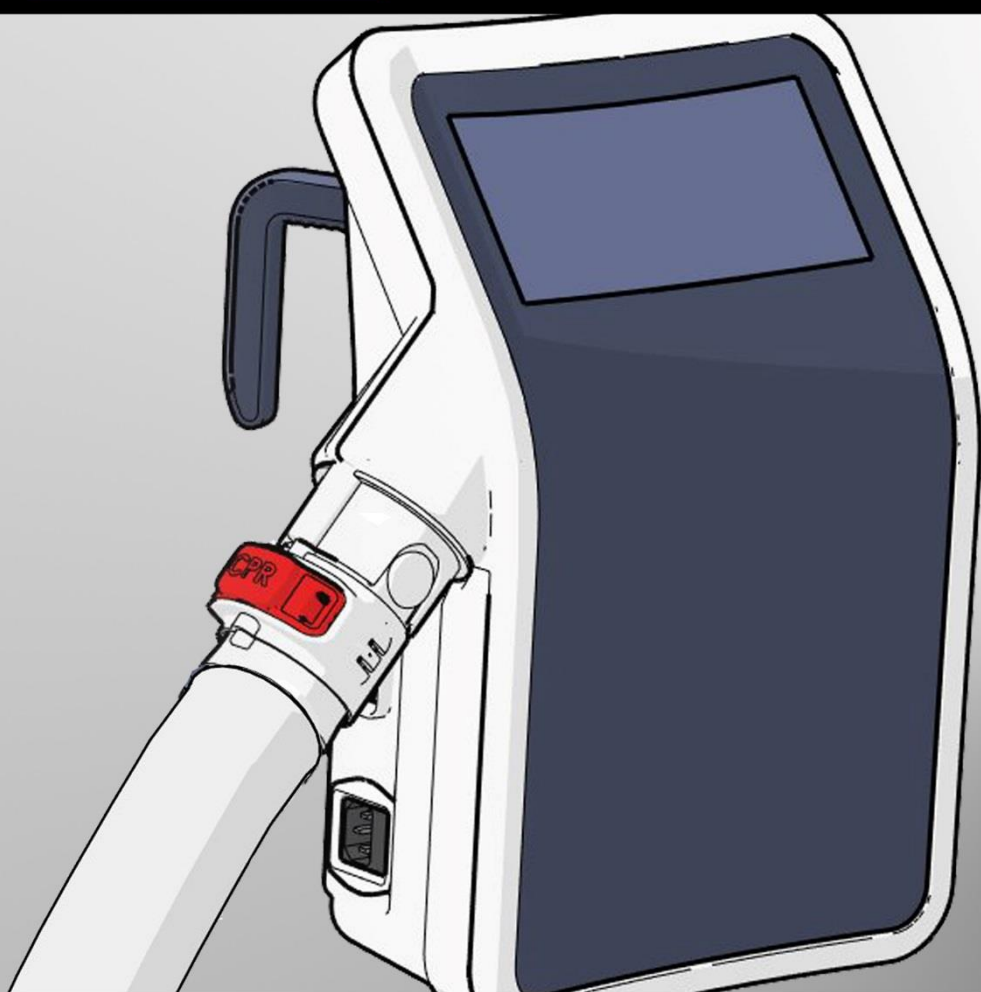


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NoDec[®]



USER INSTRUCTION MANUAL





USER INSTRUCTION MANUAL

INSTRUCTIONS FOR USE

Version 1.0

May 2016

Version History

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
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Contents

Introduction	7
Further Information.....	8
Contraindications	9
Descriptions of Symbols	9
List of Components	10
General Cautions / Warnings	12
Installation	14
Display Screens / Operation Modes	18
Turning On	18
Initial Inflation	19
Automatic Alternating Mode	20
Unlocking	20
User Settings.....	22
<i>Alternating Mode</i>	23
<i>Static Mode</i>	26
Changing Pressure Settings.....	27
Mattress Construction	29
<i>Mattress Structure</i>	30
Alarms.....	31
High Pressure Alarm	32
Low Pressure Alarm	32
Power Failure Alarm	33
CPR Emergency	34
Transportation Mode	35
Preparation.....	35
Storage (and Shipping).....	35
Further Screen Options	36

Options Menu Screen	36
<i>Display Brightness</i>	37
<i>Silent Mode</i>	37
<i>Changing Language</i>	38
Cleaning and Maintenance	39
Cleaning Procedures	39
<i>Cleaning the mattress</i>	39
<i>Cleaning the Pump Unit</i>	40
Maintenance	40
Technical Parameters	41
Power Unit	41
Mattress	41

Introduction

Congratulations on purchasing the NoDec® AIRSTREAM THP two-cell cycle alternating pressure air mattress system with Total Heel Protection™. This high quality medical product, if installed and cared for in accordance with these instructions, will provide many years of trouble free service and outstanding clinical performance.

The NoDec® AIRSTREAM THP (NoDec® THP) is an alternating pressure mattress replacement system designed for the prevention and treatment of pressure ulcers, specifically heel ulcers. It is suitable for high risk patients and pressure sores up to Grade III.

This mattress system is manufactured to conform with international standards, EN 60601-1, EN 60601-1-2, and is registered to CE Mark.

Please read this Instruction Manual thoroughly before using the NoDec® AIRSTREAM THP.

Further Information

The NoDec® THP replaces the mattress on any hospital, style bed frame. This mattress replacement system is quiet, comfortable and simple enough for a single caregiver installation.

The frequent removal of contact (interface) pressure has been demonstrated to reduce the risk of pressure injury which is caused by reduced capillary blood flow in the tissue surrounding the bony prominences. The **NoDec® THP** is also a valuable aid in the treatment of existing pressure injuries up to Grade III.

The objective of the NoDec® THP is to reduce the contact pressure created by the patient lying on the mattress, meanwhile completely removing pressure acting on the heels. This is achieved by sequentially inflating and deflating the air cells of the mattress. This regularly reduces the contact pressure which restores blood flow and tissue oxygenation in the deep tissues about the vulnerable bony prominences.

The system consists of an air filled mattress that is placed on top of a conventional bed frame and is connected via an air supply hose (umbilical) to a separate control unit. This mattress consists of individual cells, protected by a Gerroderm cover.

The control unit is software driven which gives the capability to maintain the air pressure in the cells at the required level and to automatically alter the air pressure depending on the weight of the patient and their position in bed. Air pressure can also be changed depending on required care.

The additional presence of a CPR valve located at the side of the power unit permits the rapid deflation of the mattress in an emergency.

Contraindications

As with all alternating mattress systems, the NoDec® AIRSTREAM THP is contraindicated for use where patients have unstable fractures or spinal injuries.

Descriptions of Symbols

Throughout this user manual and on the pump unit itself, the NoDec® AIRSTREAM THP has numerous symbols:

Symbol

Explanation



Type B – Applied Part



Class II Medical Device

I / O

On / Off



Refer to Instruction Manual



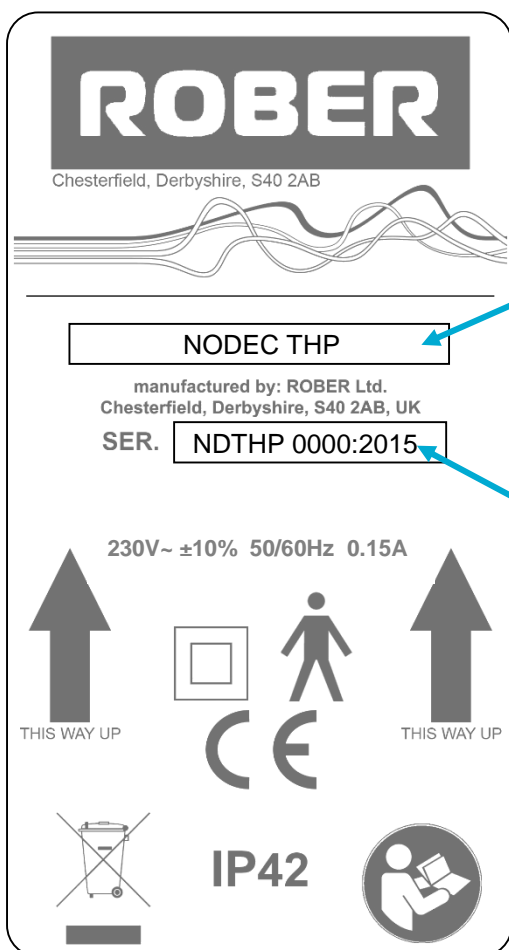
General Warning

List of Components

Unpack your NoDec® AIRSTREAM THP mattress system and check that you have the following:

- NoDec® AIRSTREAM THP Pump Unit:

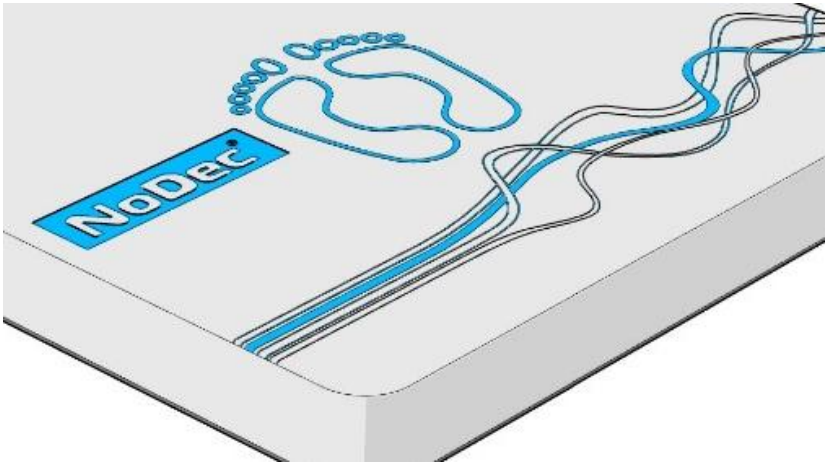
Please note the Name, Model and the Serial Number of your pump in case you need to reference these when contacting Rober or your local distributor.



Model
Name

Serial
Number

- NoDec® AIRSTREAM THP Mattress:



The top cover is made from Dartex™ which is an antimicrobial, mutli-stretch, vapour permeable, PU coated fabric. The bottom cover is made from durable PVC coated Nylon.

- Power Cord:

The power plug should be appropriate to your country or region.

General Cautions / Warnings



Before setting up the mattress, it is important to read all the safety instructions below. Any actions or operations performed outside the guidance of this manual are carried out at the user's risk. Rober and/or the supplier are not liable for any such actions.

- Inspect before use. If any faults are discovered, the mattress system should not be used and the supplier immediately notified.,
- Check the power cord is positioned so there is no risk of obstruction or potential injury.
- **Risk of explosion:**
Do not use in the presence of flammable chemicals or gases.
- **Risk of fire:**
Do not place near heat sources or naked flames.
- **Risk of electrocution:**
Ensure that the mains power is fully earthed.
Never partially or fully submerge electrical equipment in fluids.
Check the power cord is free from any damage.
Never handle the plug with wet hands.
Do not open the case. Any repairs should be made by qualified service engineers.
Do not spill food or liquids on the pump unit. *If spillage occurs, disconnect from the mains and allow to dry before re-use.*
- Do not use phenol based cleaning solutions on the mattress or cover.
- Do not place any components of the mattress system in either heat or steam autoclaves.

- **Risk of Suffocation:**

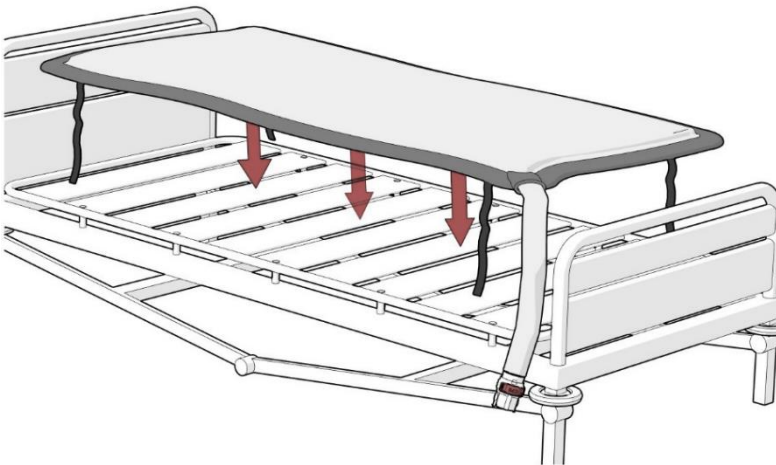
The cover is not air permeable. Ensure the patient can use the product safely.

- Do not drop the pump unit and do not drop objects onto it.
- Never use sharp objects on or near the mattress.
- Never insert objects into the pump.

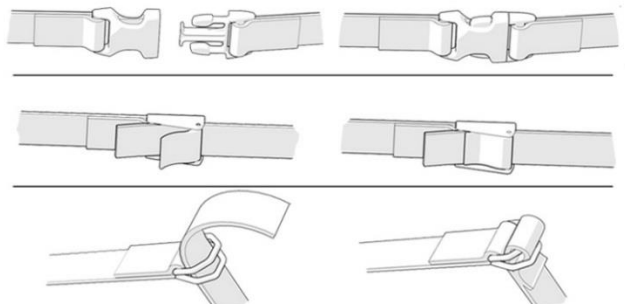
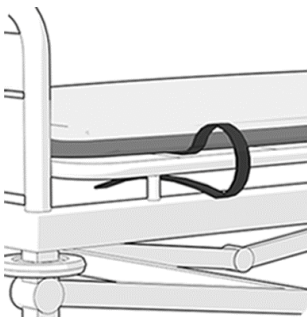
Installation

Please follow these instructions to install your NoDec® AIRSTREAM THP mattress replacement safely and appropriately.

1. Place the mattress onto the bed frame, ensuring the light grey top cover is facing upwards and the air supply hose (umbilical) is positioned at the foot end of the bed.



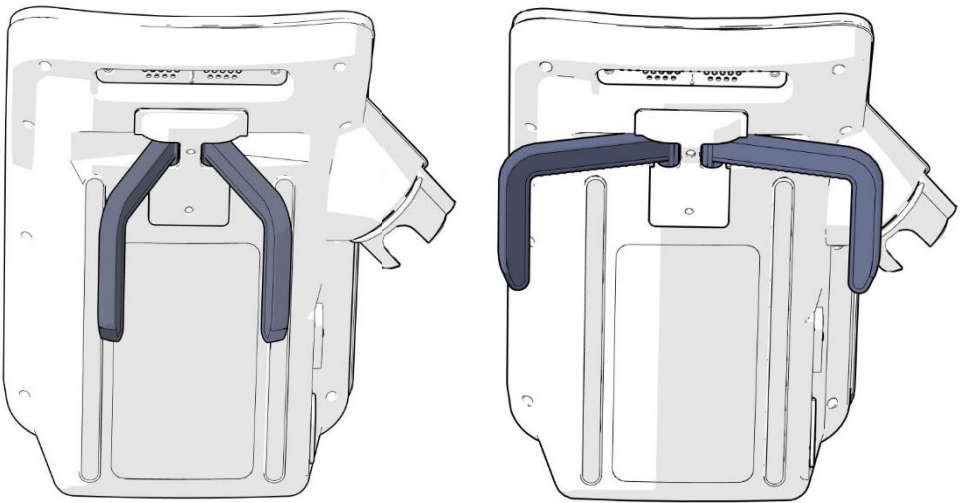
2. Secure the mattress to the bed using the straps and fasteners provided.



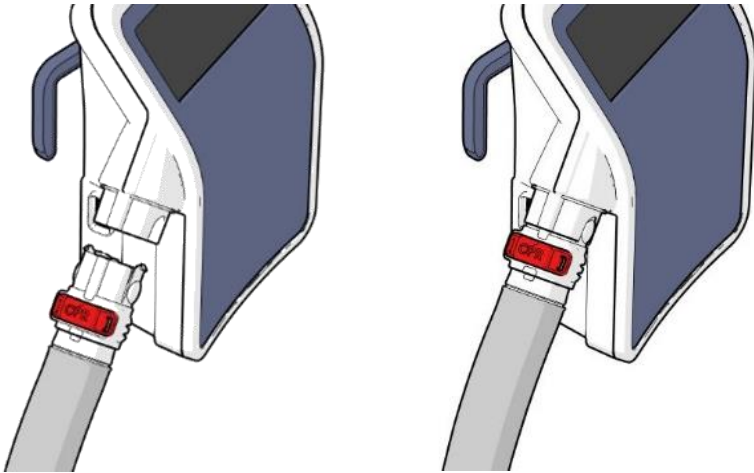


Ensure that fastened straps do not restrict the operation of any moving parts of the the hospital bed. Straps attached around both moving parts and fixed parts of a bed frame will cause severe damage to the mattress. After installation carefully test the functions of the bed to ensure the mattress moves freely with the bed platorm.

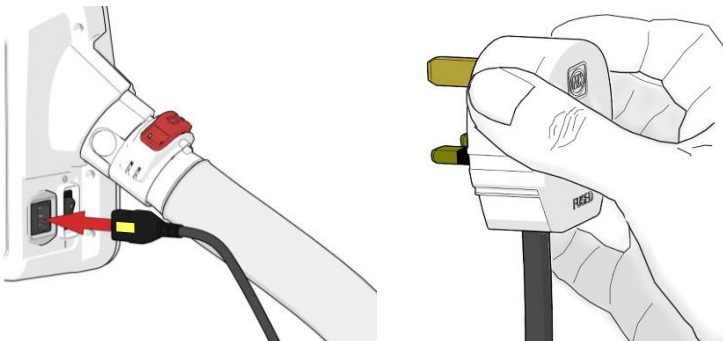
3. The hooks on the back of the NoDec® AIRSTREAM THP have been designed to accommodate a variety of bed frames and can be adjusted easily by pushing down on the hooks and rotating.



4. Hang the unit onto the bed frame at the foot end of the bed with the control panel facing outwards.
5. Check that the CPR clip is in the closed position and plug the umbilical hose into the dock.



6. Plug the power cable into the pump using the international connector and then plug the other end (*the main disconnection device*) into an **easily accessible** mains supply socket. Turn the unit on using the switch to the right of the unit's international plug socket.

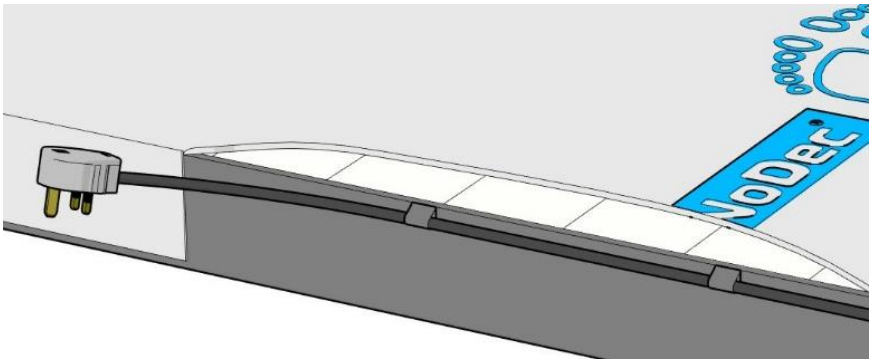




Due to the special design on the power cable's connection, it cannot be pulled out without pushing the yellow button. Ensure that the pump unit is positioned so this button is accessible.



Ensure that the power cable is safely guided through the loops located under the skirt (waterfall). This will help reduce any hazards in relation to the power cable.



7. Wait for approximately 20 minutes and your **NoDec® AIRSTREAM THP Mattress Replacement System** is ready for use.

Display Screens / Operation Modes

Before using your NoDec® AIRSTREAM THP it is important to understand the touch screen display on the front panel of the pump unit and how to navigate through the various operation modes of the system.

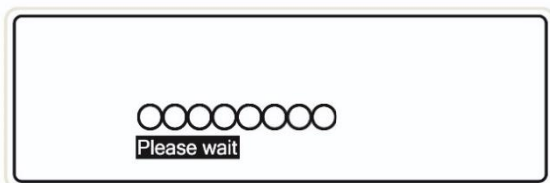
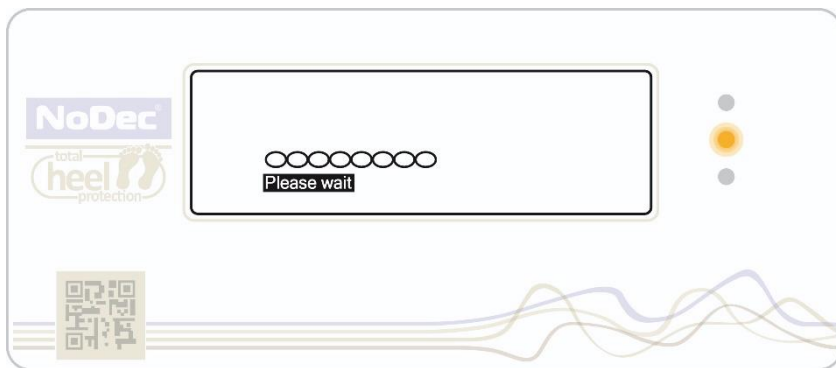
Turning On

As soon as the control unit is turned on the screen will light up and display the Total Heel Protection splash screen.



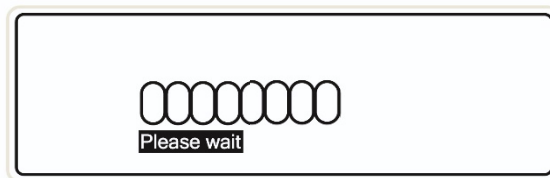
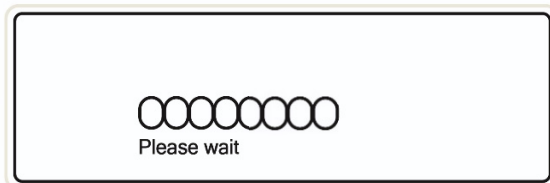
Initial Inflation

Automatically the system will begin to inflate the mattress and the screen will show 8 cells inflating simultaneously as 'Please wait' flashes. An amber LED illuminates continuously until the mattress is ready to use.



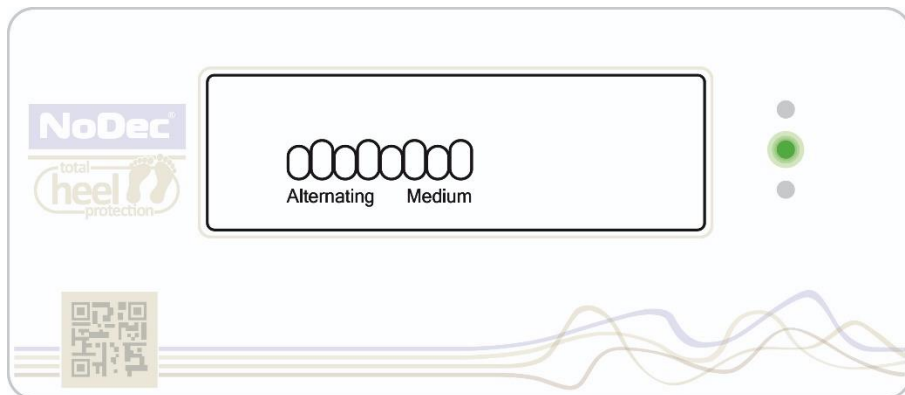
N.B.

During this inflation period it is not possible to change any settings.



Automatic Alternating Mode

Once the unit has inflated the mattress it will automatically default to Alternating Mode and calibrate to the patients weight. The following screen will be displayed and the LED will turn green.

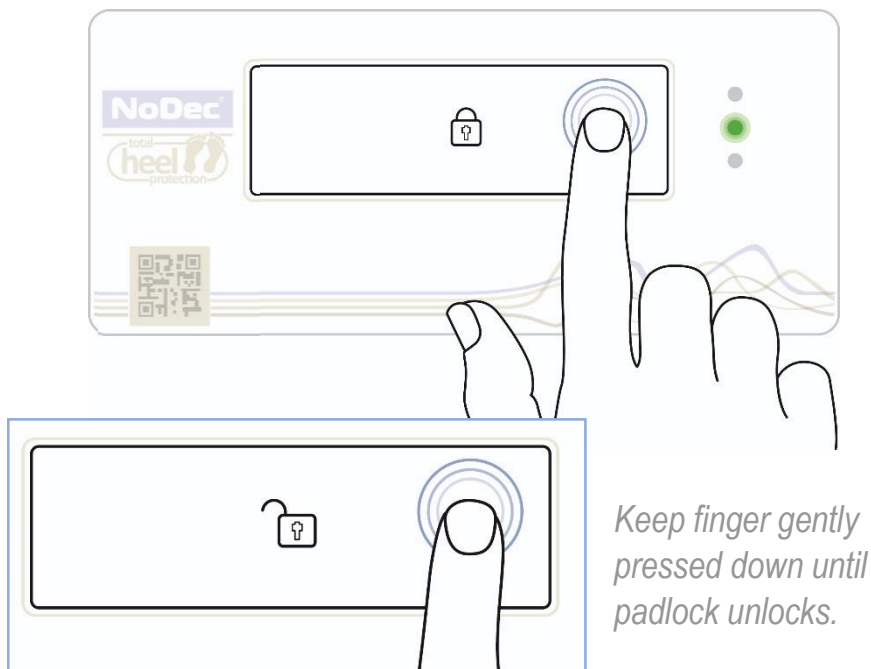


Unlocking

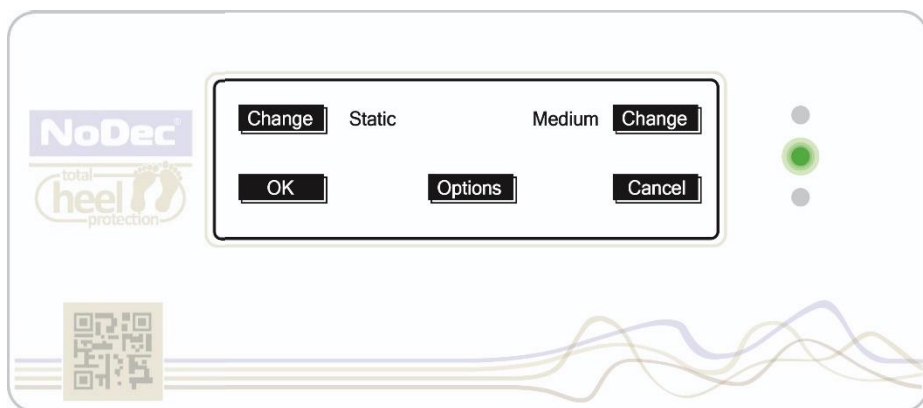
If the user wishes to change the mode or settings they must unlock the display screen first. By pressing gently and holding down on the touch screen a padlock is displayed. To unlock the touch screen press and hold until the padlock is fully open. Upon releasing the screen, the User Settings menu is then shown.



Unlocking the screen



Upon releasing, the following Menu will show:



After 20 seconds of inactivity, the system will automatically lock out the display touch screen.

User Settings

The NoDec® AIRSTREAM THP has a total of 3 different modes, some of these have additional options for pressure settings:

- **Alternating Mode**

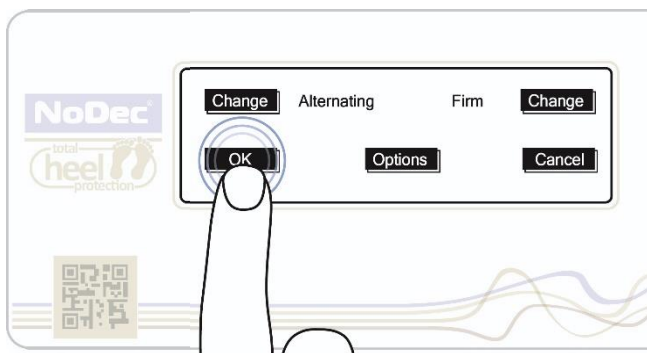
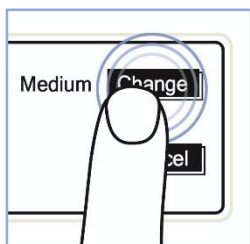
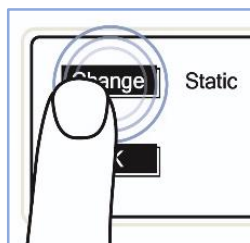
- *Soft*
- *Medium*
- *Firm*

- **Static Mode**

- *Soft*
- *Medium*
- *Firm*

- **Maximum Inflation**

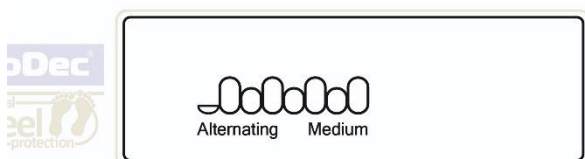
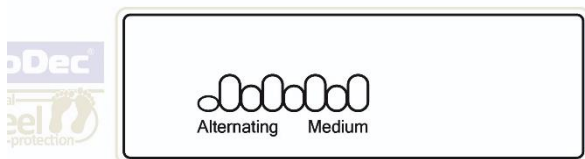
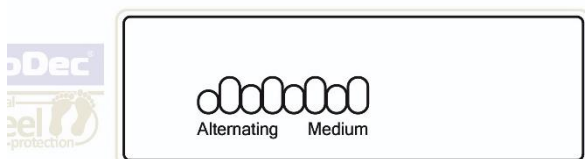
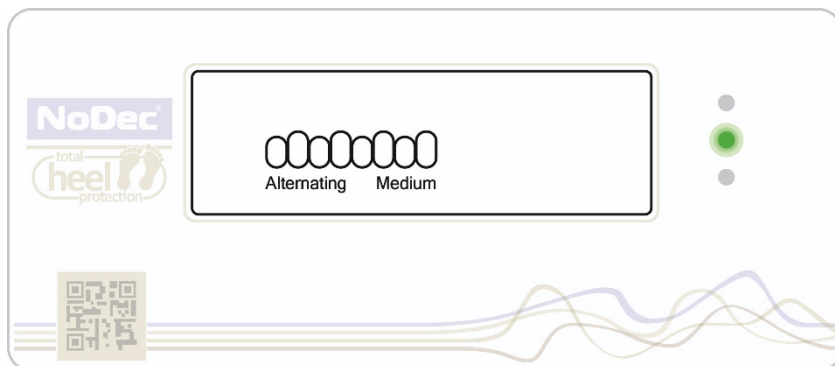
When pressing the different 'Change' buttons displayed the user can cycle through the different options until the desired mode is found. Touch the 'OK' button displayed on the screen to confirm selection.



N.B. To return to normal operation without making changes to the options press 'Cancel'.

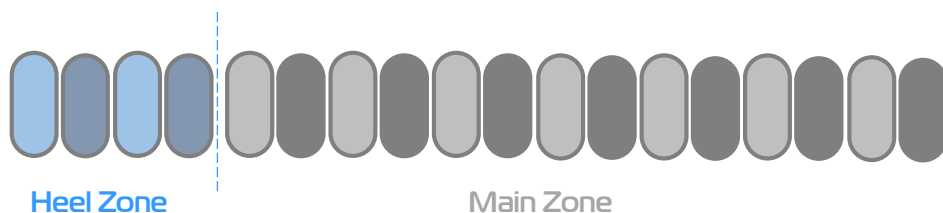
Alternating Mode

On Start-up the system defaults to Alternating mode and automatically calibrates to patient weight and body position.



As the control unit deflates the cells the Display Screen reflects the mattress' behaviour in real time.

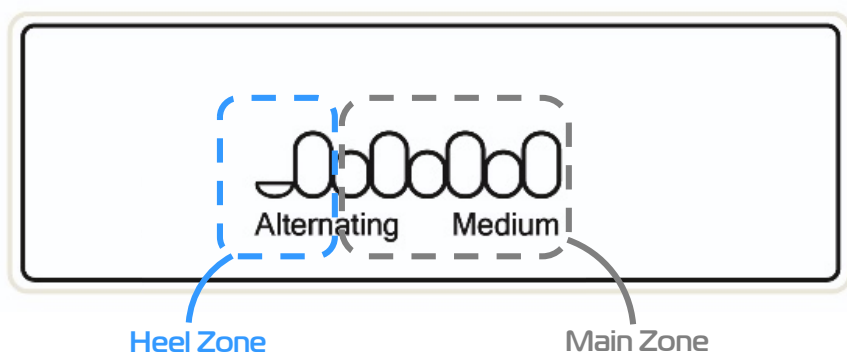
The mattress has two zones, the 'Main Zone' and the 'Heel Zone'. (see page 29)



During 'Alternating Mode' the main air cells vent and inflate in a 1 in 2 pattern with a cycle time of 10 minutes .

The four 'Heel Zone' cells are actively deflated and inflated during this same cycle time.

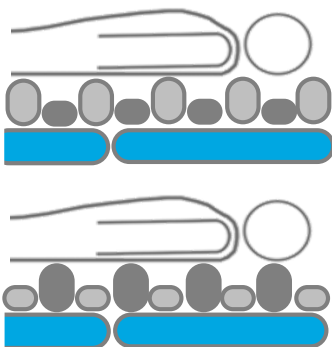
This is shown through the real-time display on the screen.



Main Zone

When the "A" cell's air is vented, pressure is reduced in the portion of the body originally in contact with those cells.

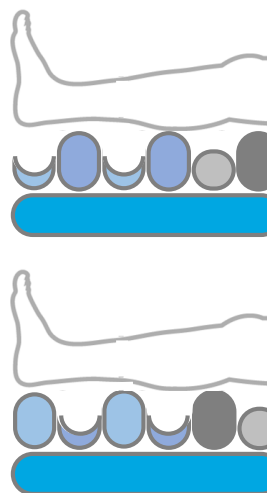
After 3 minutes the "A" cells begin to re-inflate for 2 minutes. Once these cells return to full height the "B" cells vent for 3 minutes and the procedure is repeated for the "B" Cells.



Over the complete 10 minute cycle, contact pressure is routinely reduced from all parts of the body in contact with the active components of the mattress.

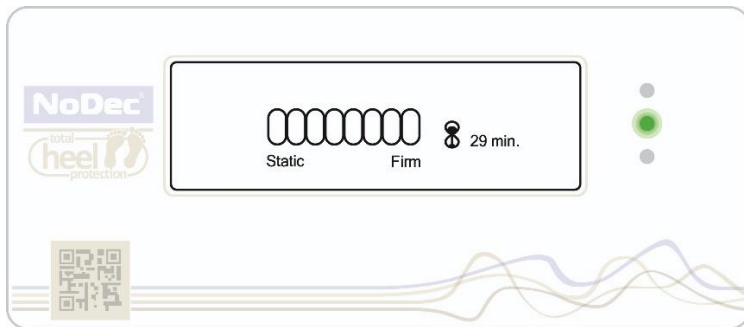
Heel Zone

The air in the "A" heel cells is actively sucked out for a period of 62 seconds. These cells then remain in the empty state for a further 172 seconds. Pressure is completely removed in the area of the feet originally in contact with these cells. The "A" heel cells are then re-inflated to coincide with the end of the first half of the 10 minute cycle and the procedure is repeated for the "B" heel cell.

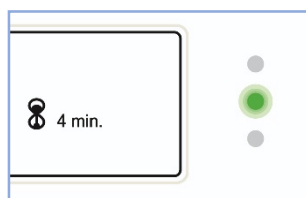
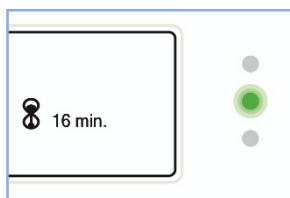


Static Mode

In this mode all cells are inflated, the mattress calibrates to patient weight and then remains in static mode. After a preset period of 2 hours, this mode will revert to alternating mode. This is for patient safety and to reduce further potential problems with pressure ulcers.



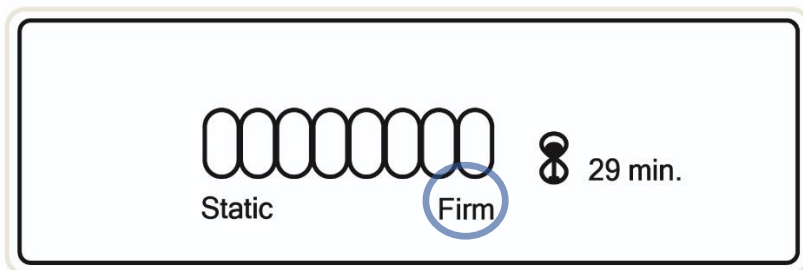
N.B. Depending on the regional preferences this timer may be set to 30 mins, 2 hrs or unlimited. The egg timer displayed shows the remainder of time left in static mode.



Static mode can be useful for evaluating a patient who has recovered from pressure ulcers. The patient does not need to be moved to another mattress for evaluation and if pressure ulcers return then pressure care should continue and the control unit set to alternating mode. Static mode is also often used to assist in nursing procedures such as washing the patient or for physiotherapy.

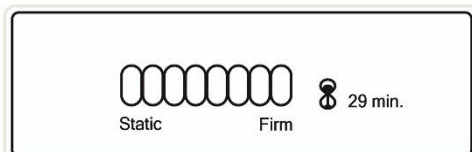
Changing Pressure Settings

Changing between Soft, Medium and Firm pressure settings is very simple. The current pressure setting is displayed beneath the 'Head cells'.

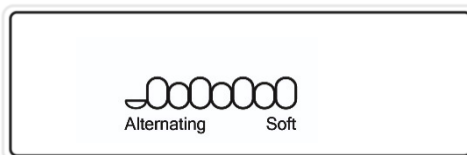
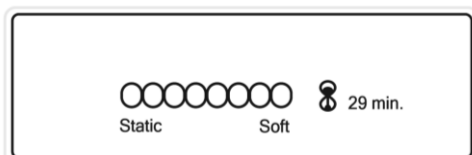
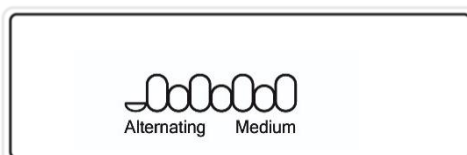
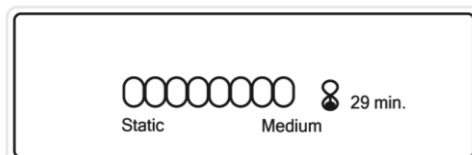
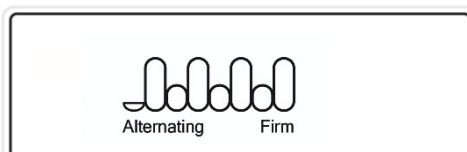


There are also clear differences between the sizes of the cells shown in different pressure modes.

STATIC



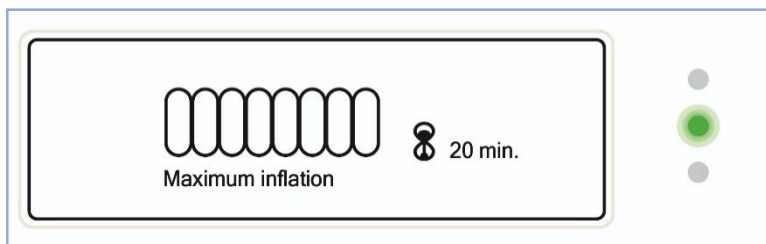
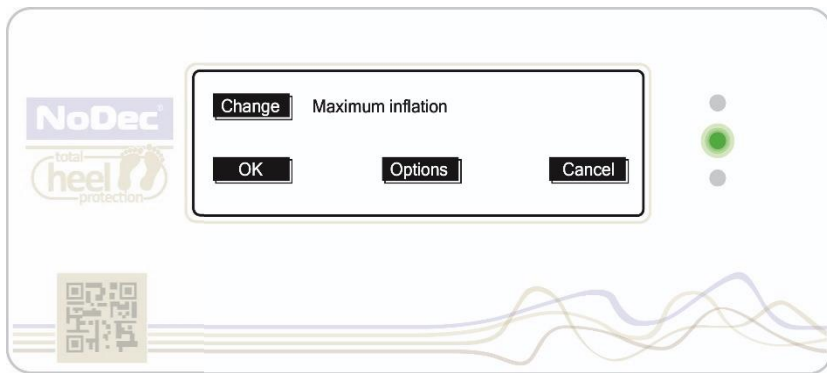
ALTERNATING



The 'Soft' and 'Medium' mattress pressure settings are more suited to the comfort of small and under weight patients. The soft setting is only suitable for a patient 60 kg or less.

Maximum Inflation Mode

The mattress is fully inflated to an '**Extra Firm**' pressure setting in order to replicate a normal hospital mattress. This mode is useful for nursing procedures when washing patients and for brief physiotherapy.



N.B. For patient protection this mode has a preset time period of 20 minutes.

Mattress Construction

The NoDec® AIRSTREAM THP mattress is configured into two decks of air cells, one deck (Integrated Cells) with lateral cells sitting on top of another with longitudinal cells.

The bottom deck remains inflated, including its two side formers. Meanwhile the 18 air cells of the top deck are pneumatically connected into four groups:

Main Zone:

- 'A' cells

- 'B' cells

Heel Zone:

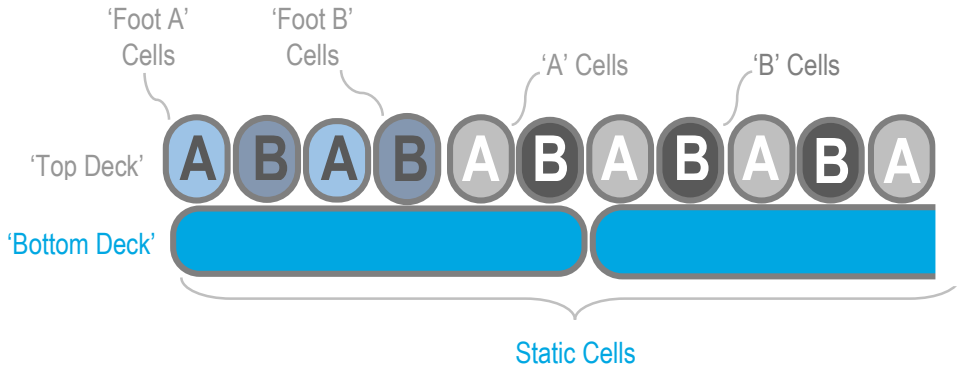
- 'A' cells

- 'B' cells

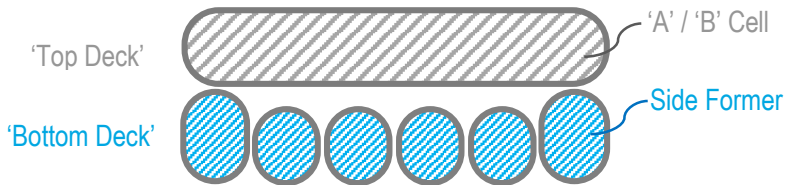
These different groups are pneumatically inflated or deflated to give appropriate pressure care.

Mattress Structure

Side Profile

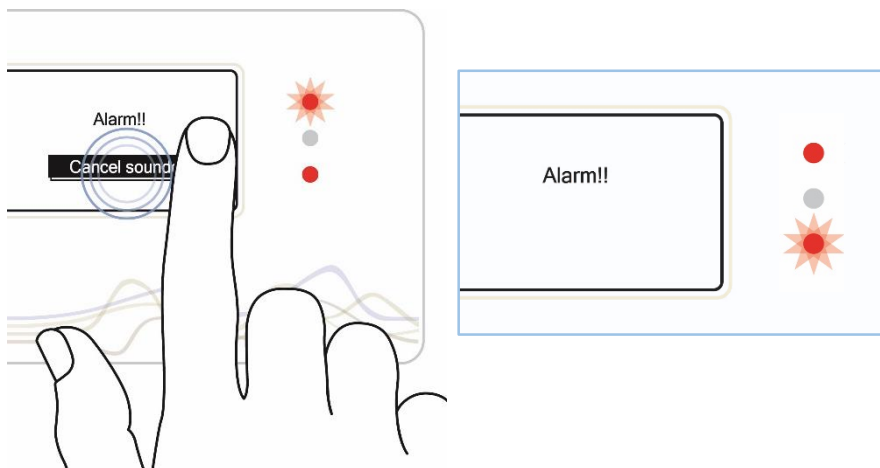


Foot View



Alarms

Each of the following alarm displays will be accompanied by a fixed tone audible alarm. The audible alarm can be cancelled by pressing the “*Cancel Sounder*” Button, however if the cause of the alarm is not resolved after 15 minutes the audible alarm will reactivate.

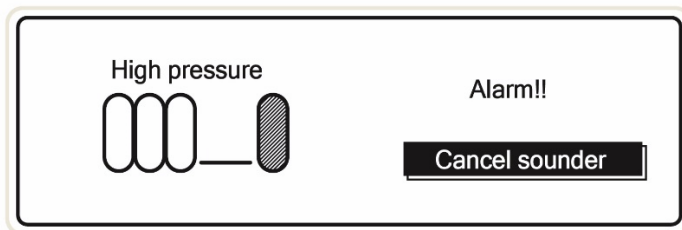


To turn off the alarm permanently, or reset the pump after fixing the cause of the alarm, simply switch the pump unit off and then on again.

ALL ALARM CONDITIONS ARE SHOWN BY ALTERNATING
FLASHING RED LEDS

High Pressure Alarm

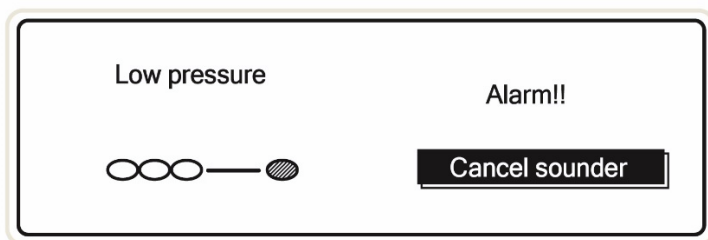
This condition could be caused by an over pressure in the mattress e.g. by another person sitting on the mattress. This alarm is shown by the following screen, accompanied by the **two LEDs flashing RED**.



To resolve this issue, carefully push the CPR button and let out a small amount of air and then re attach the hose end. Reset the pump afterwards. Persistent high pressure alarms may indicate an internal fault. If this occurs mattress system use should cease. The pump should immediately be sent for servicing.

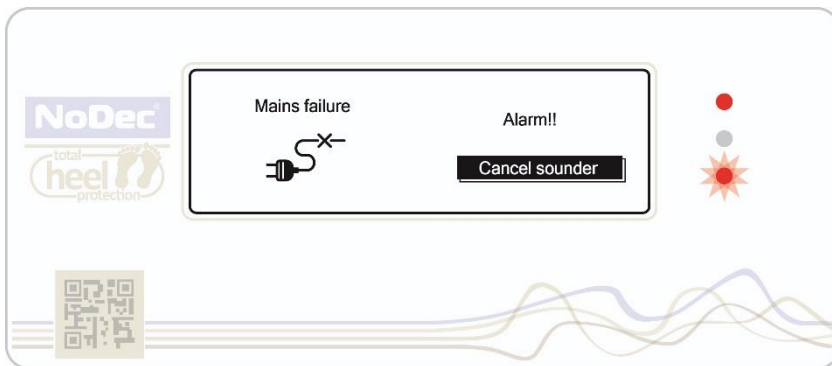
Low Pressure Alarm

This condition could be caused by releasing the CPR valve or a leak in the mattress. This alarm is shown by the following screen, accompanied by the **two LEDs flashing RED**.



Power Failure Alarm

If there is a failure of the mains power supply or the unit is accidentally unplugged from the mains then the following screen is shown, accompanied by the **two LEDs flashing RED**.

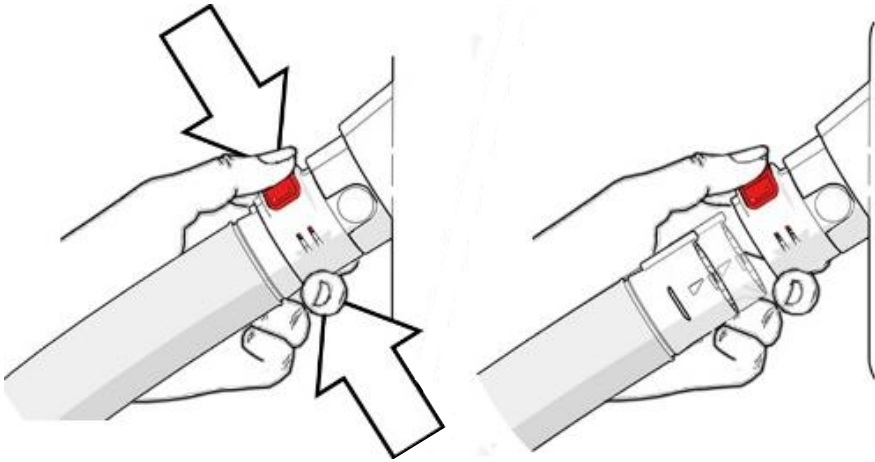


It is possible to resolve this alarm by simply plugging the power cable back into the mains, without the need to reset the control unit however this depends on the region.

N.B. *The Power Failure Alarm is powered through a small battery. The sole function of this battery is to operate the alarm in case of a mains power failure.*

CPR Emergency

In the case of a patient emergency where CPR may be necessary, the NoDec® AIRSTREAM THP has been equipped with a CPR release which rapidly deflates the mattress so that cardiac resuscitation can be performed on a firm surface.



To deploy this emergency system, simply grip the CPR unit and push the RED BUTTON. The hose end closest to the mattress will spring out and the mattress will rapidly deflate.



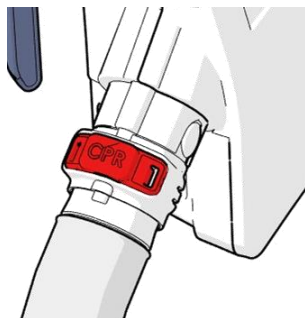
Ensure that after the CPR release has been disconnected, and CPR is complete, the hose end is pushed back in until an audible click is heard from the Red Button and then the pump is reset.

Transportation Mode

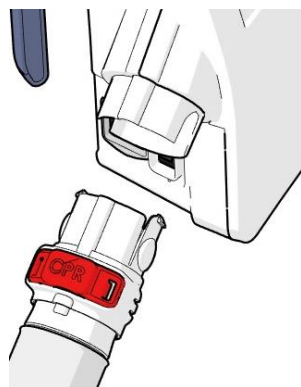
In this configuration the mattress can be transported easily around the hospital.

Preparation

When separating the pump unit from the mattress the unit should first be SET TO STATIC MODE. When all cells are inflated the pump should be SWITCHED OFF and the umbilical hose separated.



Simply push the buttons on the sides of the umbilical dock and the umbilical will disconnect. The mattress itself will remain inflated for several hours.



Storage (and Shipping)

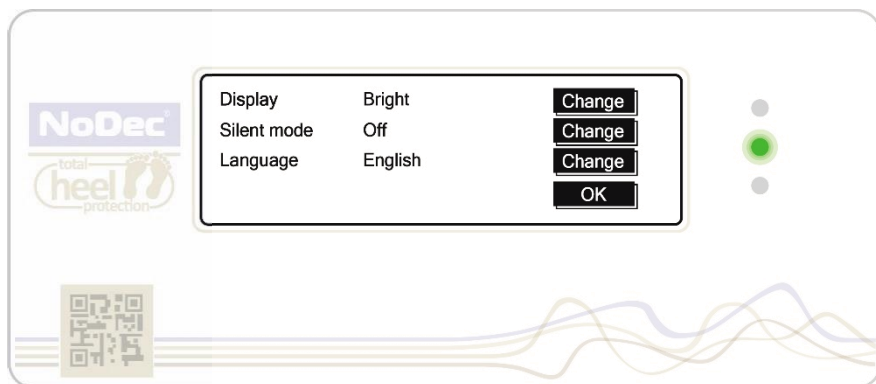
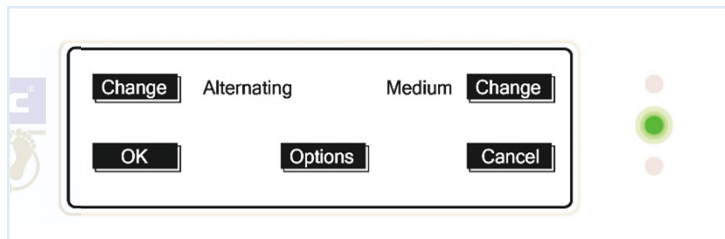
The Power Unit should be stored standing upright in a vertical manner NOT laid flat. The following conditions should apply, where possible, for the longevity of internal components:

Ambient Temperature	+10°C – +30°C
Relative Humidity	10% – 100% non condensing
Atmospheric Pressure	700hPA – 1060hPA

Further Screen Options

Options Menu Screen

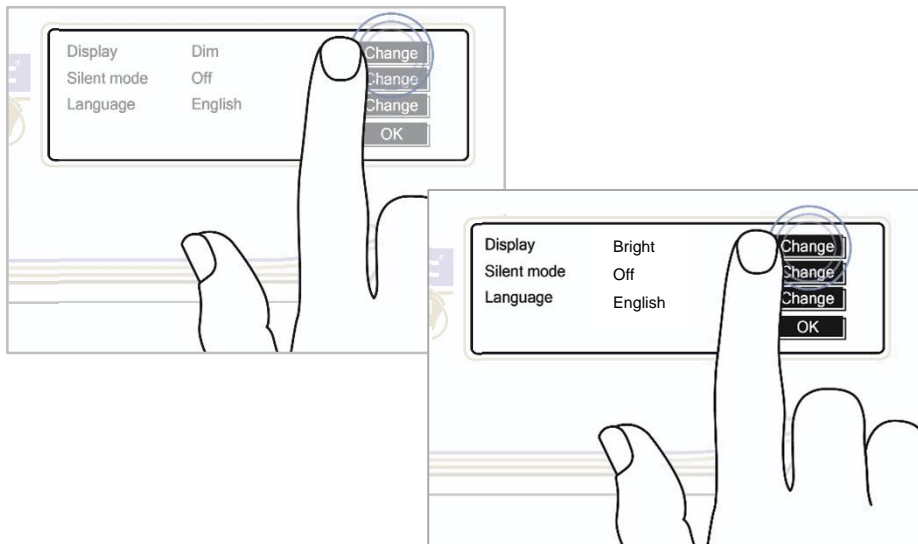
To access the options menu screen simply unlock the display and press 'Options'. The following Menu will be shown.



Here it is possible to 'Dim' the display and turn on 'Silent Mode', both of which may be useful during night hours in a hospital ward environment.

Display Brightness

By pressing 'Change' as shown, this will 'Dim' or 'Brighten' the display.



Silent Mode

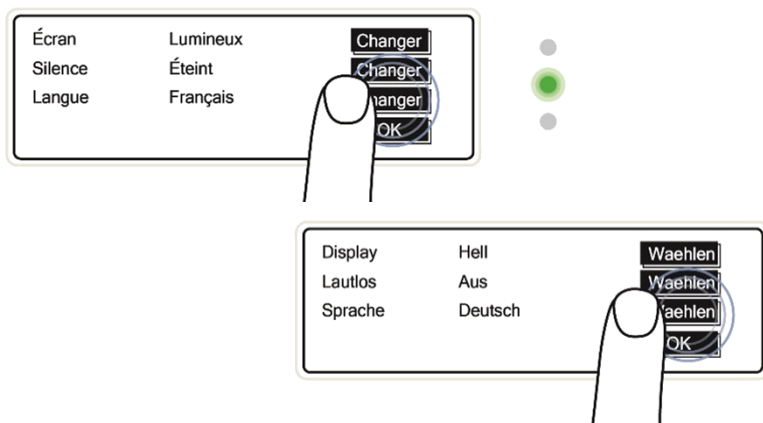
By pressing 'Change', this will turn Silent Mode 'On' or 'Off'. The Display will not make a sound upon touching the screen.



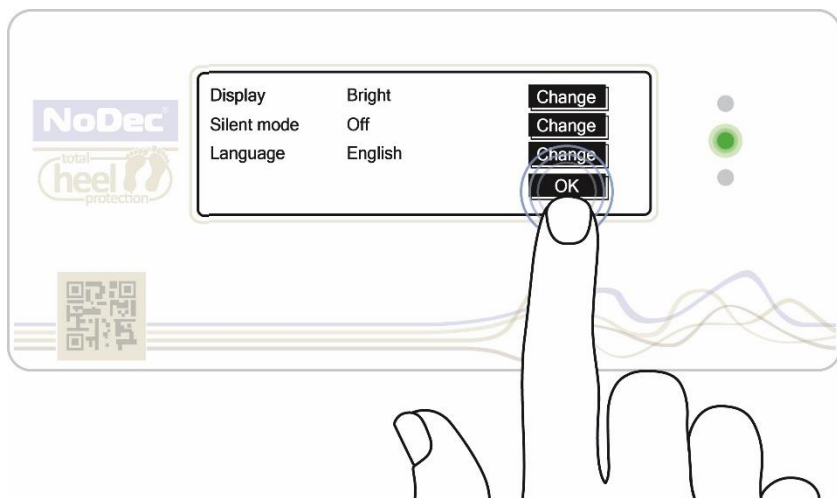
Even when Silent Mode is selected, an audible warning will still sound under alarm conditions.

Changing Language

By pressing 'Change' multiple times the control unit will cycle through preselected languages depending on geographical regions. If you cannot find the required language please contact your distributor.



After making all required selections, press 'OK' to ensure that all changes are made.



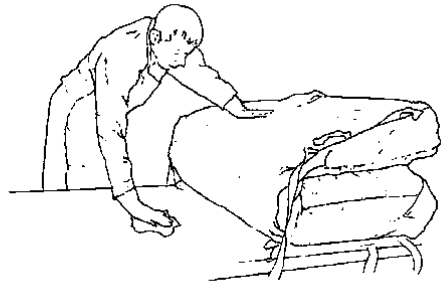
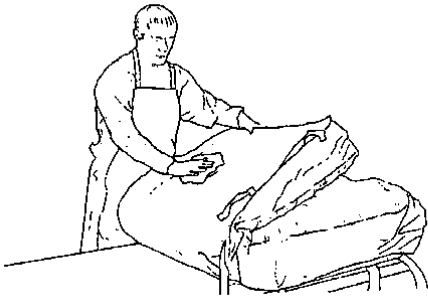
Cleaning and Maintenance

Cleaning Procedures

Cleaning the mattress system every week is recommended, or sooner if heavily soiled. Please make sure that hands are cleaned and appropriate protective clothing is worn before commencing the cleaning process.

Cleaning the mattress

1. Leave the cover on the mattress and disconnect the mattress from the unit.
2. Clean the surface of the wash-down table with hypochlorite solution or an equivalent disinfectant.
3. Wash mattress top cover using hot water (60 °C) and detergent. Dry with a paper towel.
4. Fold mattress in half length ways and clean both the table and the exposed mattress.



5. Turn over mattress so the other bottom half is exposed and clean both mattress and table.
6. Repeat Steps 3 – 5 using hypochlorite solution or equivalent disinfectant.
7. Wipe the umbilical hose with hot water and detergent. Dry with a paper towel and repeat wiping down using hypochlorite or equivalent solution.

*If required, the cover can be removed and machine-washed at a temperature of **80 – 90°C for a minimum of 10 minutes**.*

The cover may also be sterilised using ETO or Draeger processes.

Cleaning the Pump Unit

The Pump Unit can be cleaned by wiping a cloth dampened by a disinfectant solution or sterilised using ETO or Draeger processes.



Ensure the unit is disconnected from the mains electricity supply before cleaning.

DO NOT autoclave the mattress or pump unit.

Maintenance



Only qualified technicians, trained or formally approved by Rober Limited, may carry out maintenance, modifications or repairs on the mattress system.



NO maintenance or servicing should take place while the Mattress System is in use. Ensure that the patient is clear of the system, when carrying out maintenance.

Technical Parameters

Power Unit

Model	NoDec® AIRSTREAM THP
Dimensions (L x W x H)	350 x 180 x 380 mm
Weight	4 Kg
Power Supply	230V~ ±10%, 50 / 60 Hz
Power Consumption	20w max
Operating Current	0.15A
Ingress Protection Rating	IP42
Classification	Class B Medical Device Class II.
Fuses	2 x T1.6A, 250V~ 5 x 20mm
Operating Cycle	Continuous
Flammability Rating	UL94 V0
Ambient Temperature	+10°C to +30°C
Relative Humidity	30% – 75% non condensing
Atmospheric Pressure	700hPA – 1060hPA

Mattress

Model	NoDec® AIRSTREAM THP
Dimensions (L x W x H)	1900 x 880 x 230mm (<i>Standard</i>) 1900 x 820 x 230mm (<i>Narrow</i>)
Number of Air Cells	18 (<i>Standard / Narrow</i>)
Weight	8.2 kg
Mattress Material	PU / PU coated Nylon
Cover Material	Dartex / PVC Coated Nylon
Flammability Rating	Complies with BS7175 Ignition Source 0, 1 and 5
Maximum Weight of Patient	220kg

NOTES

NOTES

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