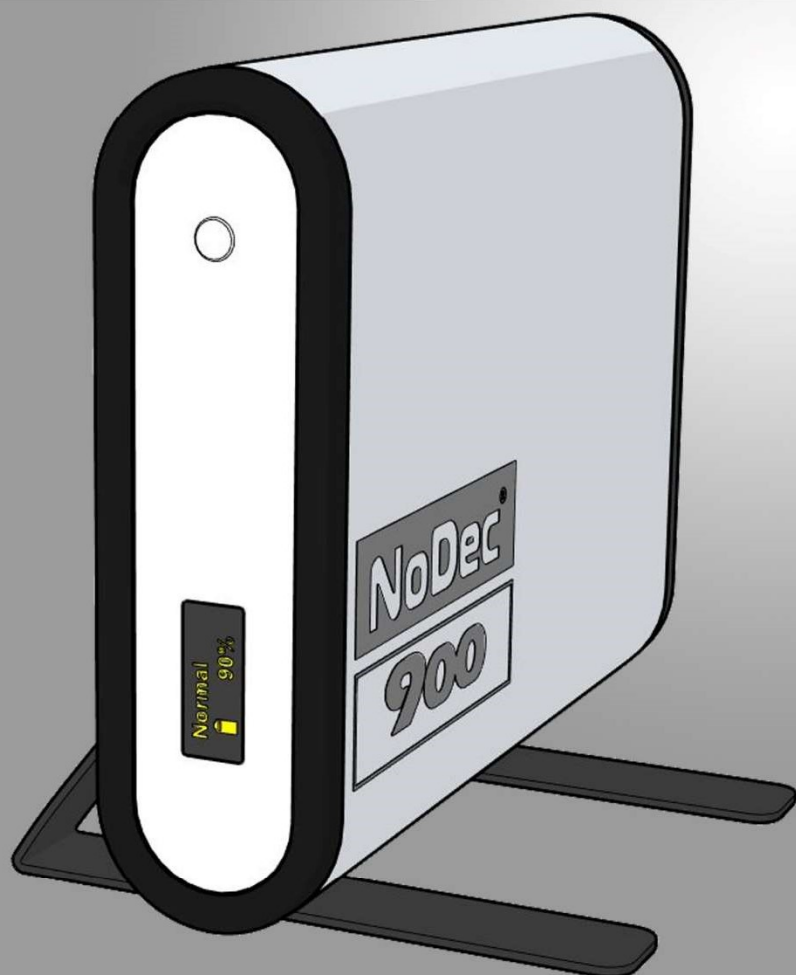


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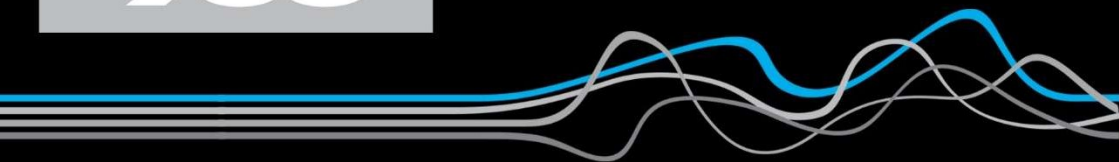
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**NoDec<sup>®</sup>**

**900**

# USER INSTRUCTION MANUAL







# **USER INSTRUCTION MANUAL**

***INSTRUCTIONS FOR USE***

*Version 1.4*

*May 2021*

## Version History

Version	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Ben Smith	N/A	G. Ball	Nov '15	<i>Original copy</i>
1.1	Ben Smith	23/07/16	G. Ball	July '16	<i>To align correctly with software changes.</i>
1.2	Ben Smith	07/09/16	M. Hutson	Sept '16	<i>To comply with the corrective actions issued by Cranage EMC/Safety Report.</i>
1.3	Ben Smith	31/08/18	M Hutson	Sept '18	<i>Rubber bung warning added pg. 16</i>
1.4	Mike Hutson	May 2021	M Hutson	May 2021	<i>Added CE and EU rep</i>

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## Introduction

Congratulations on purchasing the NoDec® 900 alternating pressure air cushion system. 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® 900 is an alternating pressure cushion replacement system designed for the prevention of pressure ulcers.

*Both patient or caregiver are the intended primary operators.*

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® 900.**

## Further Information

The NoDec® 900 can replace the cushion of any chair or simply be placed on top. The advantage of this cushion system is that it has been designed for wheelchair users, and the system will work for up to 17 hours without the need to recharge. Both the cushion and the control unit have weatherproof covers to offer protection. The alternating pressure system is quiet, comfortable and simple enough for a single caregiver installation.

The frequent relief 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® 900 is a valuable aid in the prevention of potential pressure injuries.

The objective of the NoDec® 900 is to reduce the contact pressure on the buttocks and surrounding areas created by the patient when sitting. This is achieved by sequentially inflating and deflating the air cells of the cushion. 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 cushion which is connected via an air supply hose (umbilical) to a separate control unit. This cushion has a series of air cells, protected by the cover.

The control unit is software controlled which gives the capability to maintain the air pressure in the cells at the required level and to automatically adjust the air pressure depending on the weight of the patient.



## Contraindications

As with all alternating air systems, the NoDec® 900 is contraindicated for use where patients have unstable fractures or spinal injuries.

## Descriptions of Symbols

Throughout this user manual and on the control unit itself, the NoDec® 900 has numerous symbols:

### Symbol

### Explanation



*Type B – Applied Part*



*On / Off*



*Refer to Instruction Manual*



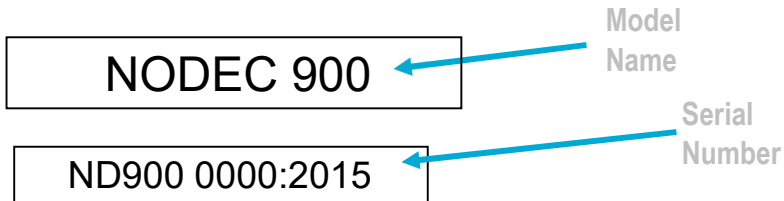
*General Warning*

## List of Components

Unpack your NoDec® 900 cushion system and check that you have the following:

- NoDec® 900 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.



- NoDec® 900 Cushion:

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 Adaptor and Power Cord:

The power adaptor plugs into the Control unit and the cord then fits into the power supply. The cord's plug should be appropriate to your country or region.

## General Cautions / Warnings



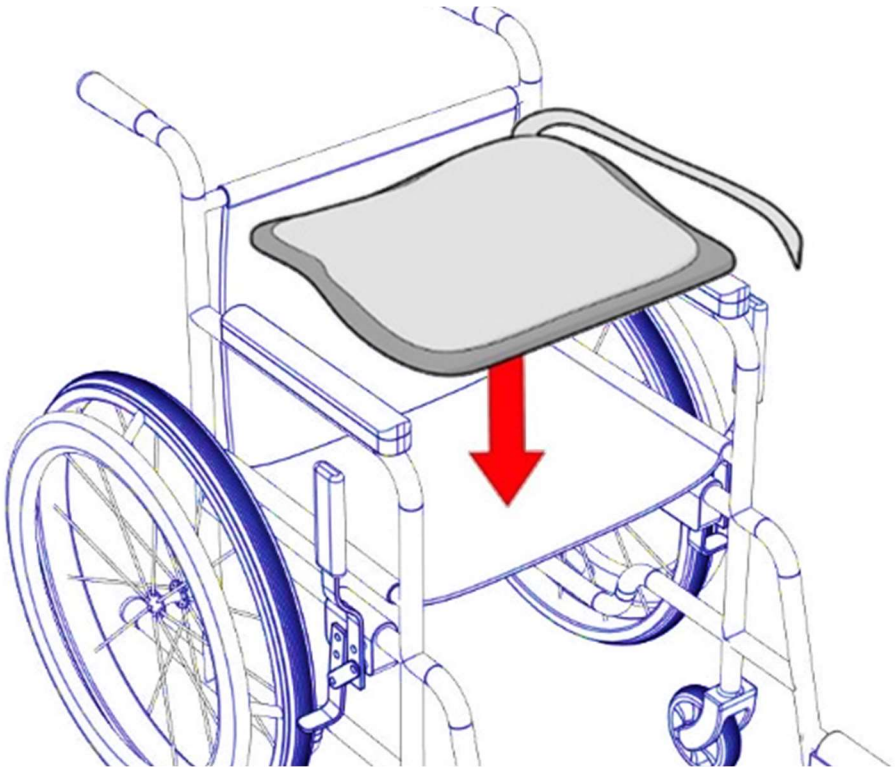
- Inspect before use. If any faults are discovered, the mattress system should not be used and the supplier immediately notified.,
- When charging, check the power cord is positioned so there is no risk of obstruction or potential injury.
- **Only use the supplied power adaptor.**
- **Risk of explosion:**  
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.

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

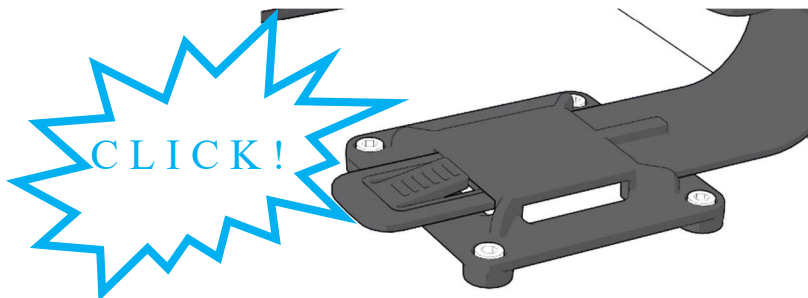
## Installation

Please follow these instructions to install your NoDec® 900 cushion safely and appropriately.

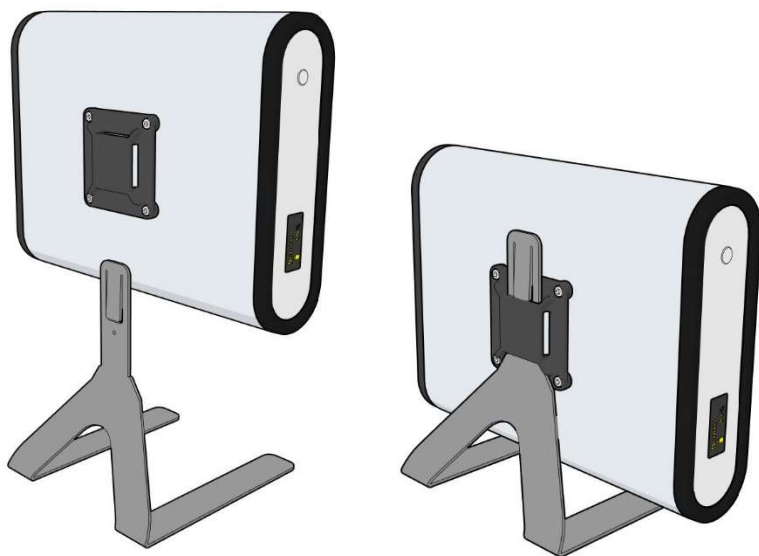
1. Place the cushion onto the chair, ensuring the light grey top cover is facing upwards.



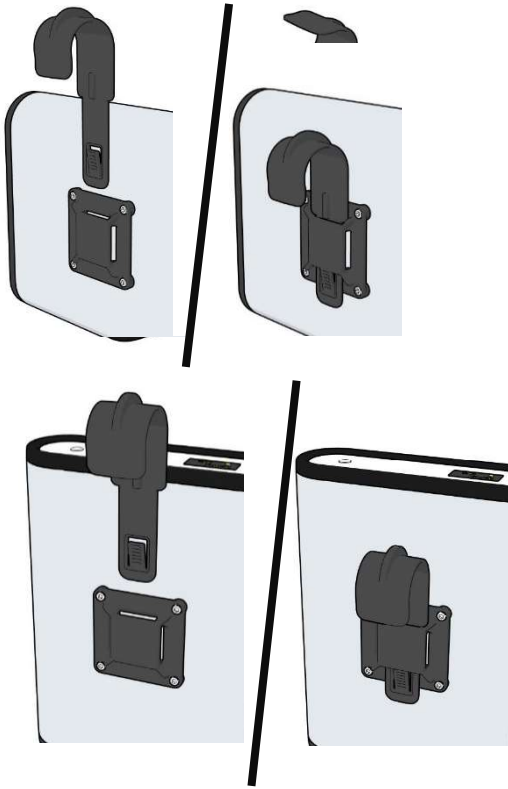
2. The bracket on the back of the control unit has been designed to accommodate a number of attachments which have various uses. All attachments slide into the bracket until a loud **CLICK** is heard.



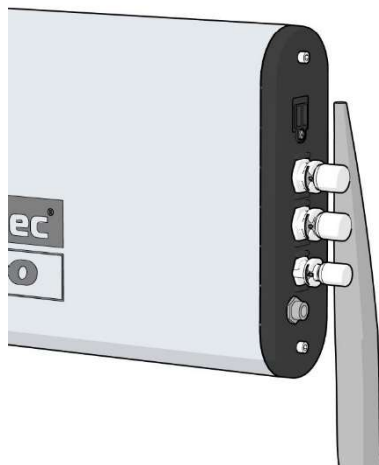
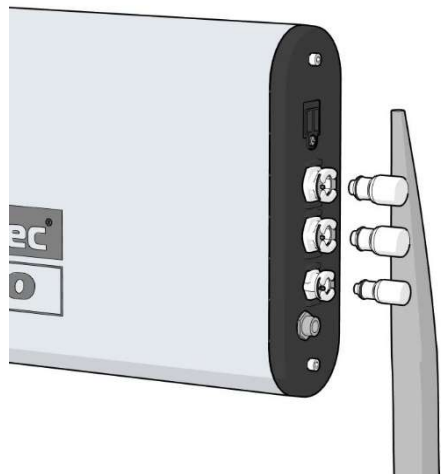
3. For stationary use within the home or hospital the stand may be used. This should be inserted from beneath the unit.



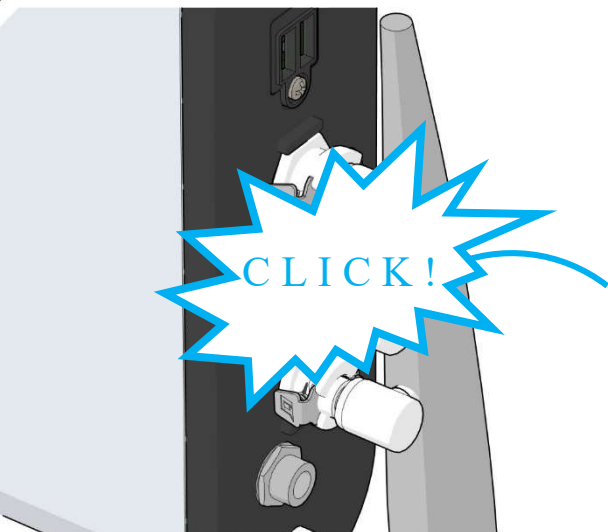
4. For mobile use outside of the home, the hooks supplied should be used depending on wheelchair design. This can be fitted depending on the users preference.



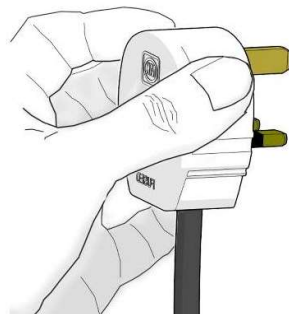
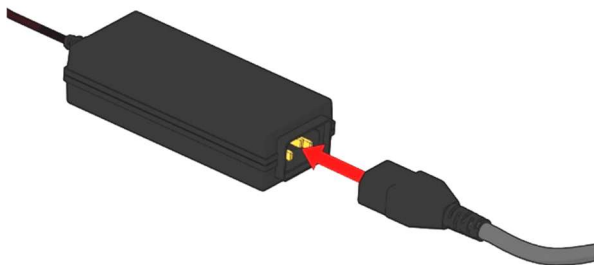
5. Connect the umbilical (air hose) into the unit via the connectors. A loud CLICK will be heard when connecting each of them.



*Ensure the cushion connectors are attached properly or the cushion will not inflate.*



6. When charging, remove the rubber bung and insert the power adaptor into the socket on the control unit. Ensure that the mains cord is plugged into the adaptor using the international connector and then plug the other end (*the main disconnection device*) into an **easily accessible** mains supply socket.



*Only use the power adaptor supplied with the control unit!*



*When operating from the internal battery and when disconnected from the power cable please ensure that the rubber bung is closed to prevent ingress of moisture and dirt.*

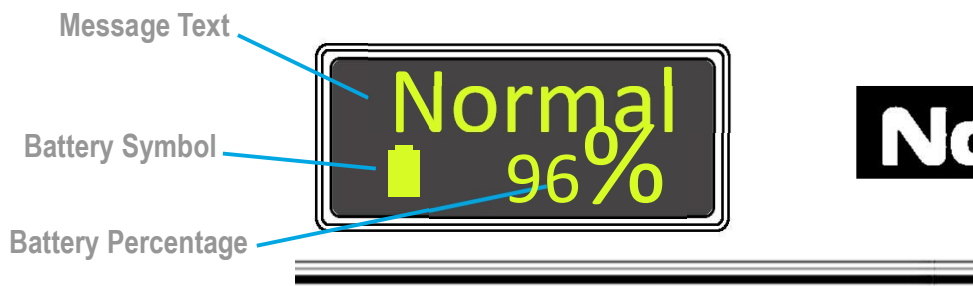
7. Turning on: When plugging the control unit to the mains it will automatically switch onto 'Charging Mode'. By simply pressing the front panel button the control unit will turn on to Normal (Alternating) Mode and begin to inflate the cushion. Wait until the display shows 'Normal' indicating the cushion is fully inflated. This should take approximately 5 minutes. **The NoDec® 900 Cushion Replacement System is then ready for use.**

**N.B.** *Before the first use, or after long periods of storage, the control unit may turn on in the normal operating mode. However it is recommended to turn the operating mode off and charge the unit until the display reads 100%.*

- 8.** Turning off: To turn the Control Unit off, simply pressing the button on the front panel. The screen should go blank.

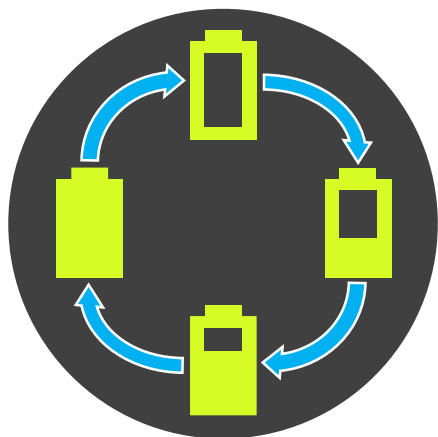
## Display Screens / Operation Modes

Before using your NoDec® 900 it is important to understand the display on the front panel of the control unit and the various operation modes of the system. The display is very simple and changes depending on the mode, i.e. Stationary home/hospital care use or portable/transport use.



### Charging

If the unit had been turned off, but it is connected to the mains, the display will read *Charging*.

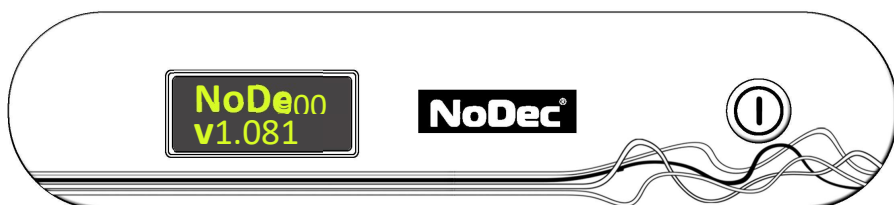


The battery symbol will be shown filling up until the level reaches 100% when it will remain steady.

**If the unit is turned on to operation mode then the battery symbol will continue to fill up.**

## Turning On / Automatic Operation Mode

Simply by pressing the “On/Off” button the unit will automatically begin the operation process by inflating the cells. Before operation begins the display will show the model and version number of the software.



## Inflating



While the control unit is inflating the cells **Wait** will be shown.

**N.B.** If the NoDec® 900's battery is charging while in operation then the battery symbol will be shown filling up while other text is displayed.

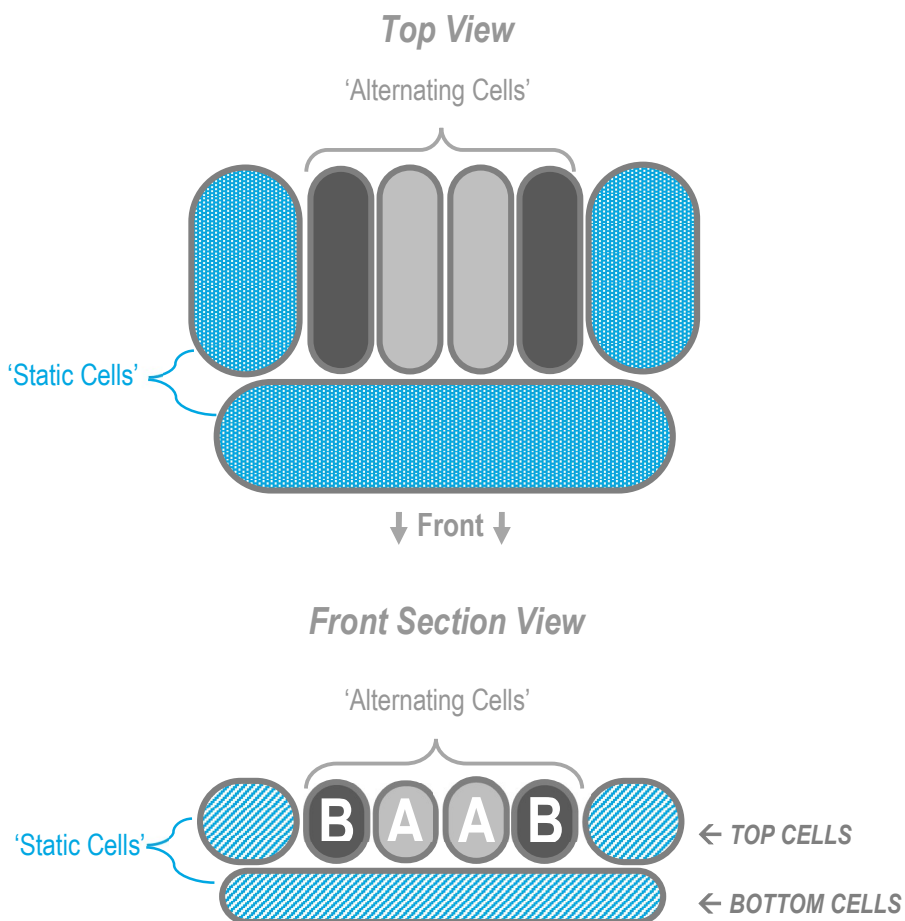
## Automatic Operation

As soon as **Normal** is shown on the display the cushion should be inflated and ready for use. Normal (Alternating) Operation will begin automatically. (See Page 21)

## Different Modes / Displays

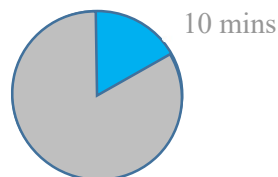
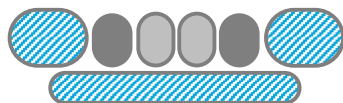
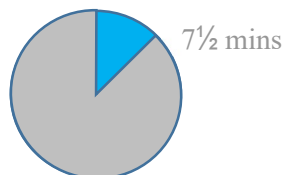
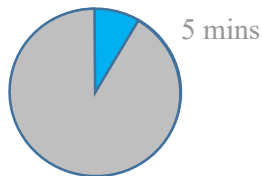
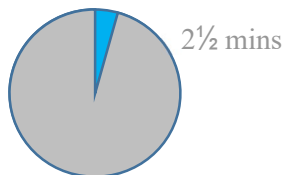
The NoDec® 900 cushion consists of three permanently inflated cells alongside a 4-cell structure which deflates and inflates on each side. This aids the relief of pressure on each buttock.

### Cushion Structure



## Normal (Alternating) Mode

The alternating air cells inflate and deflate in a 1 in 2 pattern with a cycle time of 10 minutes. When the "A" or "B" cells deflate, pressure is reduced in the portion of the buttock in contact with those cells.



At the end of 10 minutes, contact pressure had been reduced under all parts of the buttocks in contact with the active components of the cushion and the cycle begins again.

The NoDec® 900 has two different modes:

- Normal (Alternating)
- Safety (Static)

Both modes operate automatically and require no user interaction.

### Normal (Alternating)

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



*for heavier users the cushion may feel firmer for the first 2-3 cycles as the pump calibrates.*

### Safety (Static)

**N.B.** This mode is only applicable to the system when it is on battery powered operation.

*When the battery depletes **below 10%** then the control unit will automatically inflate the cushion fully. A sounder will beep once to alert the user to the change of mode. It will remain fully inflated (static) until the battery charge runs out or the charger is connected.*

## Battery Information / Charging

When the battery is fully charged it will last approximately 22 hours without needing recharging, 17 hours on alternating mode and 5 hours on static mode. These following points are important to remember when using the NoDec 900 on battery power.

### Re-Charging

When completely discharged the battery will take approximately 2½ hours to fully recharge.

*It is recommended to charge the unit after periods of battery operation. The unit must be fully charged at least once a month.*

### Fully Charged

When the display shows the battery percentage at 100% it is fully charged.



*Do not worry if the display drops to 99% when the control unit is turned on. There is still sufficient charge for 17 hours operation.*

**The control unit may remain connected to the power adaptor when in stationary operation (e.g. in the home), the battery charge will be topped up while the unit operates normally.**

## Empty Battery

When the display shows the battery percentage at 1% the unit will switch off to protect the battery from excessive discharge.



The sounder will give three short 'beeps' and the message 'Turning Off' will be displayed briefly before the control unit turns itself off and the display goes blank.

*The unit cannot be used again until a power cord is attached.*



*Do not leave the battery flat for prolonged periods (6-7 weeks). This can harm the battery's health and life. It is recommended to fully recharge the battery once per month*

## Uncharged Battery

If attempting to turn the control unit which has been uncharged for over 7 weeks the display will again read 'Turning Off' before turning blank.

***The power cable must be connected and the NoDec® 900 charged before operation.***

*It will take longer than 2½ hours to fully recharge in these circumstances.*



*When first charging a flat battery it is extremely important to **fully charge it to 100%**. If not then the display may show false information relating to the battery percentage and the battery may not last 17 hours.*

## Temperature

It is recommended that the NoDec 900® is stored at room temperature.



*The unit cannot be recharged at temperatures below 5°C*



## Storage (and Shipping)

The following conditions should apply, where possible, for the longevity of internal components:

Ambient Temperature	+10°C – +35°C
Relative Humidity	10% – 100% non condensing
Atmospheric Pressure	700hPA – 1060hPA

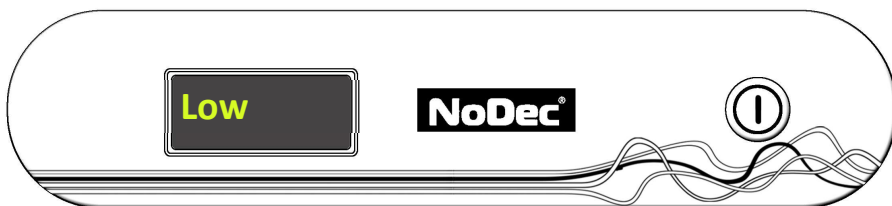
## Alarms

Each of the following alarm displays will be accompanied by a fixed tone audible alarm.

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

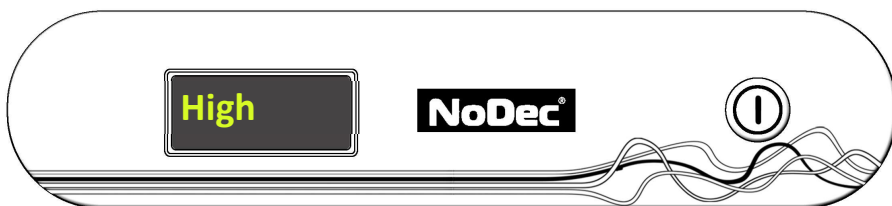
### Low Pressure Alarm

This condition could be caused by the cushion not being connected to the control unit properly or by an air leak. It is also caused by a user who exceeds the maximum weight restrictions of the cushion. This alarm is shown by the following message.



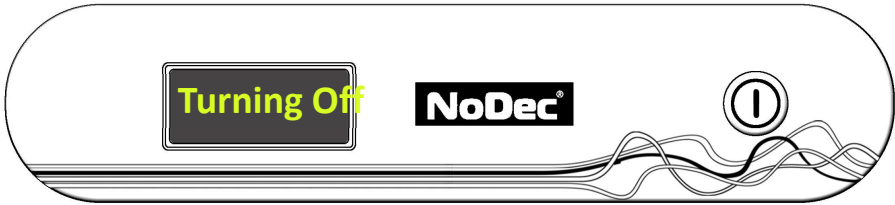
### High Pressure Alarm

This condition is caused when the load exceeds the maximum weight restrictions of the cushion. This alarm is shown by the following message.



### Insufficient Charge

When the power adaptor is not connected, the unit will not work without sufficient charge remaining in the battery. It should be charged beyond 10% before trying to use on battery power alone. If the unit is turned on under these circumstance the display will read 'Turning Off'.



## Cleaning and Maintenance

### Cleaning Procedures

Cleaning the cushion 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 cleaning process.

#### Cleaning the cushion

1. Leave the cover on the cushion and disconnect the cushion from the control unit.
2. Clean the surface of the wash-down table with hypochlorite solution or an equivalent disinfectant.
3. Wash cushion top cover using hot water (60 °C) and detergent. Dry with a paper towel.
4. Turn over the cushion so that the bottom half is exposed and clean both cushion and table.
5. 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 Control Unit

The Control 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 cushion or pump unit.*

## Maintenance



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



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

## Technical Parameters

### Power Unit

Model	NoDec® 900
Dimensions (L x W x H)	265 x 75 x 210 mm (not including attachments)
Weight	1.3 Kg
Power Supply	24V DC 1.5A
Power Consumption	36w max
Ingress Protection Rating	IP42
Classification	Class B Medical Device
Operating Cycle	Continuous
Flammability Rating	UL94 V0

### Cushion

Model	NoDec® 900
Dimensions (L x W x H)	500 x 405 x 155 mm
Number of Air Cells	4 (Alternating)
Weight	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	120kg

## Internal Components Operating Conditions

### Power Adapter

Ambient Temperature	+10°C to +35°C
Relative Humidity	30% – 75% non condensing
Atmospheric Pressure	700hPA – 1060hPA
Model	XP AFM45US24
Dimensions (L x W x H)	121 x 50 x 31 mm
Weight	256 g
Power Voltage	90 – 264V~ 47 – 63Hz
Power Current	1.2A rms (at 115V~)
Power Output	24V--- 2.01A
Operating Cycle	Continuous

Your local distributor is:-



Registered Manufacturer

Rober Limited, Wheatbridge Road, Chesterfield, Derbyshire. UK. S40 2AB

**EC**

**REP**

Advena Ltd. Tower Business Centre, 2<sup>nd</sup> Flr, Tower Street, Swatar, BKR 4013, Malta.