

Instruction Guide & User Manual



Pressure Relieving / Alternating Air Cushion & Pump

Pump Model: HH/P08 Cushion Model: HH/C02

NB: Please ensure this document is fully read & understood by the Clinician / Carer / Service Engineer prior to use.



Wiltshire II™

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SAFETY

Before you connect the system pump to a mains socket, read carefully all the installation instructions.

This system has been designed to comply with regulatory safety standards including:

- EN 60601-1 / Class I Medical Device

For your own safety and the safety of the equipment always take the following precautions:

- Keep the pump away from sources of liquids.
- Do not expose the system, especially the mattress, to naked flames, such as cigarettes etc.
- Do not store the system in direct sunlight.
- Do not use phenolic based cleaning solutions.
- Keep sharp objects away from the mattress.
- Ensure that the system is clean and dry prior to storage.
- Store the pump and mattress in the protective bags supplied.
- We recommend the use of cot sides on the bed while the system is in use and the patient is positioned on top. Local policies regarding the use of cot sides should be taken into account.
- Keep these instructions handy for reference.

WARNING

Electrical equipment may be hazardous if misused or damaged. Ensure the power is isolated to the system before any repairs or maintenance is carried out & these should only be carried out by suitably trained & authorised personnel.

For further advice please call Herida Healthcare on Freephone 0800 193 6030.

INTRODUCTION

Product Description

The Herida Wiltshire II is our second generation cushion used in the prevention and treatment of pressure ulcers for patients in all categories of risk. It provides comfort and support by maintaining a good level of blood flow around the body whilst seated.

This cushion contains a unique horizontal cell design that alternately inflate & deflate in a cyclical pattern. This type of cushion is ideal for patients who spend a proportion of their day in long term care, using a chair & is used in conjunction with a dynamic mattress system, under the required level of supervision.

Application

For patients who are classed as medium to high risk of developing pressure ulcers.

Contraindications

Patients with severe spinal injuries / fractures should not be using this product.

This product forms part of a holistic care package and should only be used by trained personnel. For training or further advice contact Herida Healthcare on Freephone +44 800 193 6030.

Working Principle

The dynamic cushion system consists of a manual air pump and an alternating air cushion. The air cushion has three distinct airway chambers:

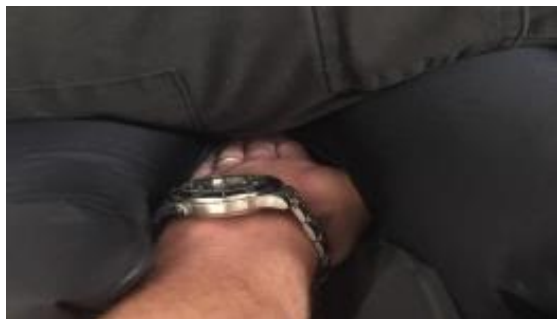
1. Group A Chambers – Air tubes 1,3 & 5.
2. Group B Chambers – Air tubes 2 & 4.

A and B chambers alternate inflating and deflating by using the pump connected. This air alternating, cushion system enhances the blood circulation to treat and prevent pressure ulcers, when part of a holistic care package. Initialisation can take up to 10 minutes to achieve.

Important Clinical Notes

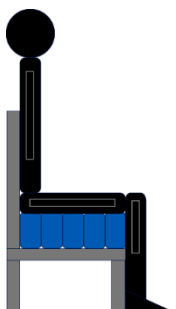
The manual (or where applicable digital pump) pressure setting is for clinical application purposes and of course patient comfort. When the pump is set to the indicative patient weight (refer to clinical notes), it is important to ensure that sufficient clearance of the patients sacral area is lifted off the chair and the product is fully functioning. A way to ensure that the patient is fully clear of the cells during cycle and after initialisation, is to place a hand under the deflated cell and feel from the side of the chair. If you have clearance the setting (other than comfort is suitable). If the patient is not clear of the chairs surface, then please increase the pressure settling gently and repeat the process after five to ten minutes.

OPERATION



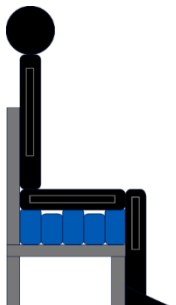
(NB: use hand to check ensure appropriate clearance when profiled as below. Add more pressure on the pump if required in order to achieve this. NB: Weight setting is a guide only and cell pressure must also be taken into consideration for individual patients). Clinical judgement must always overrule user guidance.

Static Mode



When the pump is adjusted to the static mode, air chambers A & B are both fully inflated until full inflation is achieved.

Alternating Mode



When started, both chambers A & B are initially inflated to full inflation. Group A chambers deflate for 5 minutes followed by both A & B inflating for 1.5 minutes. This is followed by Group B chambers deflating for 5 minutes. This is one complete cycle.

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OPERATION

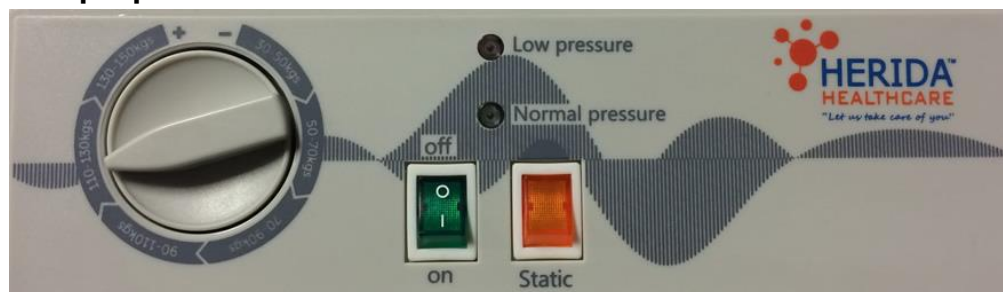
Installation

1. Remove all packaging & place the pump over the back of the chair on its hooks or on a flat surface.
2. Ensure that there are no sharp or hard objects on the seat before unfolding the cushion & laying out flat. The air inlet should be located at the rear of the seat.
3. Connect the pump to the socket & switch on.
4. Adjust the mode & pressure by the users condition & weight to suit.
5. In order for the alarm to activate, the system must be switched on & powered up for at least 5 minutes. This should give the internal battery on the PCB sufficient time to charge.

Safety Instructions

1. Ensure that there are no sharp objects, fire or abrasive materials in the vicinity. If the cushion is damaged, remove the patient & transfer to an alternative mode of pressure relief.
2. If there is an issue with the pump, remove the patient & transfer to another mode of pressure relief.

Pump Operation



Power: Power On / Off

Pressure Dial: Turn clockwise / anti-clockwise to increase / decrease the pressure setting as required, depending on the weight & comfort of the patient. Each section represents 20kg increments.

Static: All tubes will inflate up to full inflation. No alternating takes place & the dynamic cushion system will remain in static mode until switched back to normal.

Pressure Monitor: The light is illuminated when pressure is normal & extinguished when pressure is abnormal. The light will continuously flash during the alternating cycle change-over.

OPERATION

Air Leakage / Low Pressure Alarm

- After working for 50 minutes and the pressure is lower than 30mmHg, the pump will alarm indicating an initialisation failure.
- During normal operation, when the pressure is lower than 30mmHg for 6 minutes, the pump will alarm indicating possible air leakage from the cushion.
- Pushing the mute key will silence the pump alarm.
- If the alarm sounds consistently and all attempts to remedy have failed, seek engineer assistance to rectify.

Power Off Alarm

The alarm will sound if power is lost to the pump.

Pump Characteristics

Power	AC220V / AC110V
Pressure Range	30 - 130 mmHg (V1) / 30 – 80 mmHg (V2)
Internal Fuse	F0.5A 250V
Plug Fuse	3A
Frequency	50Hz / 60 Hz
Power	8W
Noise	≤45dB
Weight	1.6 Kg
Alternating Time	1 complete cycle is 11 ½ minutes which is 2 x 5 minute periods of alternative cell inflation with a change over time of 1 ½ minutes.

Pump Pressures

V1 (HH3500/50 & Previous Pumps)

Weight (Kg)	Pressure (mmHg)	Weight (Kg)	Pressure (mmHg)
30 – 50	30	50 - 70	50
70 - 90	70	90-110	90
110 – 130	110	130 - 150	130

This is subject to a tolerance of ±20%.
Please be advised that the analogue pumps do not provide a precise measurement of pressure as with the digital version.

Pump Pressures

V2 (HH3500/50 Onwards)

Weight (Kg)	Pressure (mmHg)	Weight (Kg)	Pressure (mmHg)
30 – 50	30	50 - 70	42
70 - 90	52	90-110	64
110 – 130	74	130 - 150	80

This is subject to a tolerance of ±20%.
Please be advised that the analogue pumps do not provide a precise measurement of pressure as with the digital version.

Cushion Characteristics

Model	C02 Wiltshire II™
Layers	1
CPR	1
Max Loading Weight	150 Kg

MAINTENANCE

Cleaning

Regular cleaning of the cushion is required as per the below instructions. Failure to follow these instructions may result in a void warranty situation.

STANDARD CLEANING PROCEDURE

Wipe down cover with a soft, disposable cloth which has been moistened with warm water & detergent (advisory at 40°C).







SEVERE INFECTION CONTROL PROCEDURE

Use a diluted solution of Sodium Hypochlorite (or similar) & fresh water (up to 1,000 ppm) In the following circumstances:

- **Blood or bodily fluids has soiled the mattress**
- **Between different patients**

In extreme cases, chlorine based products may be used as follows:

- **Apply a fresh water base to the cover with a soft cloth**
- **Apply the chlorine solution (maximum 10,000 ppm)**
- **Thorough fresh water wash down**
- **Ensure the cover is dried thoroughly**

Machine wash up to 80°C	Do not dry clean	Occasional tumble dry on low heat	Do not bleach	Do not iron	Do not use phenol based products such as 'Stericol' or Clearsol'
					

Maintenance & Repair

Maintenance & repair work should only be carried out by an appointed engineer who have been trained by Herida Healthcare Ltd. and only original manufacturers parts should be used. Failure to do so could result in a void warranty situation.

Service Interval & Instructions

This product must be serviced annually as a minimum (or upon patient return) to ensure ongoing safe, trouble free usage. The service must be conducted by a Herida trained / competent individual that has demonstrable training records. This training must be reviewed regularly. Only Herida Healthcare spare parts can be used to ensure warranty and safe use is achieved throughout.

MAINTENANCE - 12 Months or Upon Patient Return

At point of service the following aspects must be maintained to ensure that manufacturer's warranty remains intact. These can be done in a non-alphabetic way, if all areas are covered:

- Ensure the pump unit and cushion / cells are fully decontaminated prior to service and are cleaned in accordance with the schedule provided.
- Electrical safety checks / Pat Test – To be conducted annually or time of service. Please make sure the kettle lead and plug fuse is compliant at 3amp only.
- Filters must be changed at point of return / before patient handover / new client and at time of service.
- Rear pump fuse must be inspected and replaced if faulty – 0.5A only.
- Pump casing must be opened and vacuumed internally, if any dust or particles are evident. Never use any water / fluid internally to clean.
- Pump must achieve pressure within 20% tolerances as per page 9 of this manual – via calibrated sphygmometer and cell attachments. Kits available to purchase via manufacturer. Ensure that a rapid inflator is used at time of service to ensure that service and installation time is reduced to minutes.
- Pump low pressure function is evident at 6mmHG or lower for 15-20 minutes or more.
- Cells are to be fully inflated and tested for leakage. This should be done via a pressurised system, soak test over at least 3 cycles or under weights to replicate patient in situ.
- The tubing and connectors that run down the side of the cushion, must be clear of kinks / debris or must not be snapped in any way. These should be running freely with air distribution to each cell and have no leakage or deterioration of surface.
- A functional "soak test", ensuring that the tactile panel / pump and mattress operates fully in synergy. This is done by attaching and inflating the mattress to full pressure and then increasing / decreasing both weight and other panel / button functions.
- The pump, if stored for a period of time, may require attaching to the mains electric for at least one hour prior to use. This is to ensure the battery is sufficiently charged, ensuring the alarm function is fully functioning. Contact manufacture if a warranty item.
- Ensure the timer valve is rotating freely & a light application of grease should be applied if required. The manufacturer recommended grease to use is Molykote 111 compound.
- Cushion cover and cells are to be inspected for puncture, tear, rip or excessive odour post cleaning and replaced accordingly if defective.
- Calibration setting as required. See page 12 for further details.

Storage

Good ventilation will be required when storing the product & it should always be kept dry & away from direct sunlight. Temperature should be maintained in the region of 22°C ± 3°C when in use. Avoid repeat exposure to extreme temperatures.

MAINTENANCE

Transportation

- Care should be taken when loading, unloading and during transportation & refrain from placing heavy objects on top of the cushion.
- Do not expose to direct sunshine for any period of time when loading and unloading & ensure a cover is used to protect the cushion when raining or snowing.
- Do not open with a knife or sharp objects as this may damage the cushion cover.
- Always use the provided re-usable pump protector for all transportation methods. This plastic sleeve will need to be cleaned prior to re-use for infection control purposes.

Calibration

- During service intervals or between patients, it is recommended to check pressure tolerances (see the table on page 9) using a Herida Testing System. Calibration training must be conducted & applied by a Herida trained technician.

Other Considerations

- Original internal fuse is F0.5A 250V. When replacing the fuse, ensure a similar type is used and that the fuse is disposed of in the appropriate manner.
- The cushion should be away from sharp objects to avoid any scratches or punctures.
- Put bed cover sheet or blanket over the cushion before use. No plastic or rubber sheets should be used.
- Ensure that all the tubes remain flat & any twists / kinks are avoided.
- If any air leakage is found, check all the tube connectors and air tubes carefully to see if any are loose or damaged.
- If any major problems or issues are found or the product is not working, stop using immediately and ask the engineer / manufacturer / provider for assistance.
- Any discarded cushion or covers should be treated in accordance with local rules and guidance in accordance with contaminated products.

Parts and Accessories:

- Cushion (1PC) / Pump (1PC) / Air tube (1PC) / Cushion Cover (1PC)

ROUTINE CHECKS



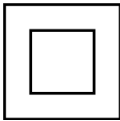





Mattress

- Remove top cover and inspect for signs of wear or any tears.
- Check zips are still operative & function as normal.
- Check integrity of all connectors including cells and tubing.
- Ensure all cell fasteners are snapped to the cushion base and are not loose or faulty.
- Check that stitching which secures the straps to the base of the cushion is sound and no fraying or damage has occurred.

Pump

- Check the outer casing of the pump unit for damage.
- Examine the mains supply lead of the pump unit for signs of wear or damage & replace if necessary.
- Test power fail alarm system before use.

WARNINGS & SYMBOLS

	<p>Warning – Follow guidance at all times as per the instructions within the user manual.</p>
	<p>BF application symbol – Provides a higher degree of protection against electric shock.</p>
	<p>Class II electrical appliance – Double insulated.</p>
	<p>Dispose of electrical equipment correctly (WEEE).</p>
	<p>Do not use broken or damaged electrical plugs or cables as this may lead to electric shocks.</p>
	<p>Ensure hands are dry before handling all electrical items.</p>
	<p>No exposure to water / splashing or it may cause electric shocks or fire.</p>
	<p>Only authorised / qualified personnel should dis-assemble, repair or rebuild this product.</p>

TROUBLE SHOOTING

No.	Issue	Possible Cause	Possible Resolution
1	No power	<ul style="list-style-type: none"> The plug is not properly connected. Power Cut. The fuse is broken. The machine / system is broken. 	<ul style="list-style-type: none"> Make sure the power is correctly connected and the voltage is normal. Await re-connection of power / look at generator. Check the fuse, replace if broken. Call the local distributor for repair or replacement.
2	Air cushion leakage / Alarm Sounding	<ul style="list-style-type: none"> The cushion is not connected to the pump correctly. Air tube is disconnected or damaged. 	<ul style="list-style-type: none"> Check the tube connectors. Repair the air tubes or call for replacement.
3	Cushion is too hard or too soft	<ul style="list-style-type: none"> The air pressure is not adjusting to required level. 	<ul style="list-style-type: none"> Adjust the pump pressure according to the user weight until suitable and comfortable.
4	No full inflation after long inflating	<ul style="list-style-type: none"> Air hoses are loose or not connect properly. Air pump has not enough air pressure. 	<ul style="list-style-type: none"> Check all the air hoses and connectors. Adjust the pressure on the pump. If it is showing maximum pressure full inflation has not been achieved, the pump has a problem. Ask for repair or replacement.
5	Pump has strong vibration	<ul style="list-style-type: none"> The pump is not located on a flat area or not hooked properly on the bedframe. 	<ul style="list-style-type: none"> Put the pump on flat area or hook it in a suitable position on the bedframe.

COMPANY INFORMATION

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Disclaimer

Please be aware that all products should be disposed of in an environmentally friendly & infection control manner in compliance with any local or national requirements. Contact Herida Healthcare Ltd. for responsible WEEE disposal methods.