drive

DeVilbiss HEALTHCARE

Athena Advanced Low Air Loss Dynamic Mattress System

Instructions for use

This document is to be used in conjunction with the full instructions for use document. Read all warnings prior to using this guide. This Quick Reference Guide does not replace the full instructions for use.

1. Quick User Guide

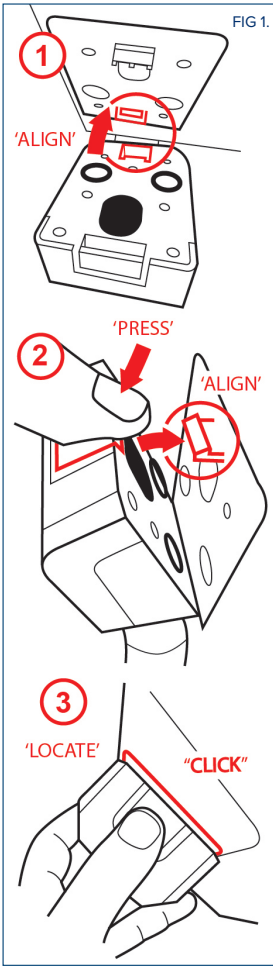
Athena Advanced Mattress

The mattress is intended to support a single patient who is up to 250kg in weight and 185cm in height. A lower (or upper) age limit is not defined as it depends on the physical size of the patient in relation to the proportions of the mattress and bed frame. Clinical judgment is to be used to determine patient suitability.

FIG 2.

FIG 3.

FIG 1.



- For profiling beds, it is essential that straps are secured around the movable sections of the bed frame - damage will be incurred when profiled if secured to fixed parts of the frame (FIG 2).
- To avoid any risk of damage to the mattress, ensure there are no sharp objects which may come into contact with it.
- Position the control unit by hanging the hooks over the foot board. If there is no foot board, place the unit on the floor with the front facing upwards. Ensure the rear of the unit is not obstructed by carpet, rugs etc. It is advisable to place the unit on a firm surface (FIG 3).
- Connect the mattress to the control unit, following steps 1 to 3 (FIG 1).
- Plug in and switch on.
- The mattress will start to inflate. Inflation can take up to 45 mins. Once inflated, ensure the straps attaching the mattress to the bed frame are secure and hold the device in place. Secure sheets loosely enough to ensure they do not interfere with cell alternation.

CPR

- Rapid deflation of the mattress may be required for emergency treatment or system deflation.
- Disconnect the umbilical cord from the control unit by pressing down the release button and follow steps 1 to 3 in reverse (FIG 1).
- To re-inflate, re connect the umbilical cord from the control unit by following steps 1 to 3 (FIG 1).
- Wait for the mattress system to reach optimal pressure prior to a return to normal use.

Power Failure

In the event of a power failure, the power Failure indicator illuminates if power is lost. leave the mattress connected to the control unit. See no.2 to mute alarm. Reconnect to mains supply at earliest opportunity.

Mattress Cable Management

- To reduce a risk of trip hazards, route the mains cable down the length of the mattress using the integral routing. Lift waterfall flap to locate cable routing (FIG 4), unzip the entire length of the mattress and insert the cable. Close the zip around the cable, down the full length of the mattress (FIG 5 & 6).
- Always ensure cable is unplugged from mains power before moving the bed. It is advised not to wrap the cable tightly but to leave some slack.

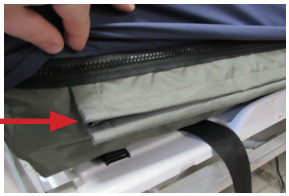
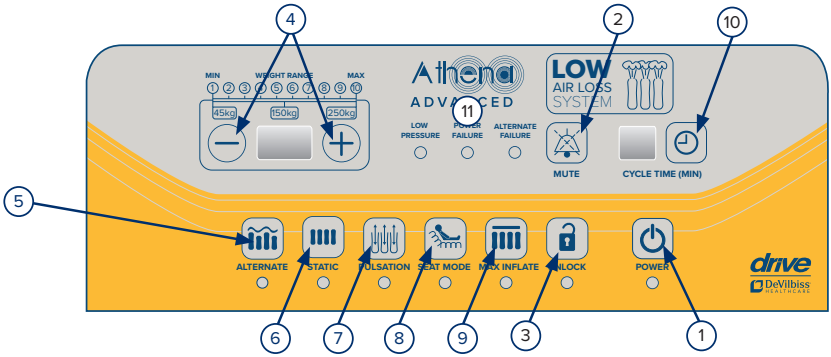


FIG 4.

FIG 5.

FIG 6.



No.	Symbol	Description
1	POWER	Turns system on/off. Green LED indicates system is on.
2	MUTE	Mutes the audible alerts. Visual alerts will flash until problem is solved.
3	UNLOCK	Locks/unlocks interface functions. Green LED indicates system is locked.
4		Increase (+) or Decrease (-) comfort weight settings.
5	ALTERNATE	Selects alternating cycle, see no.10 for cycle time adjustment.
6	STATIC	Selects static, constant air pressure based on the comfort weight setting.
7	PULSATION	Selects pulsation cycle, increases and decreases pressure in cells every 15 seconds.
8	SEAT MODE	Selects seat mode, pressure increases in appropriate cells to prevent patient bottoming out.
9	MAX INFLATE	Selects max inflate, reverts back to previous comfort weight setting once maximum pressure is reached.
10	CYCLE TIME (MIN)	Adjust cycle time value, selected value shown. 5, 10, 15 and 20 minute intervals available.
11	LOW PRESSURE / POWER FAILURE / ALTERNATE FAILURE	Visual failure alerts, orange LED indicates failure.

Introduction

Drive DeVilbiss Healthcare manufacture beds, pressure area care equipment and hospital furniture at their UK manufacturing plant in Halifax, West Yorkshire.

This state of the art manufacturing plant uses the latest technology to cater for bespoke and high volume production, to meet the needs of the healthcare environment.

Research and Development is undertaken following strict guidelines to ensure all products are fit for purpose and comply to the relevant product and industry standards.

Drive DeVilbiss Healthcare meets the requirements of:

- EN ISO 13485
- EN ISO 14001.
- BHTA
- Infection Prevention Society

Contents

PAGES WITH DARK BLUE HEADINGS ARE FOR USE OF AUTHORISED PERSONNEL ONLY. IF IN DOUBT, CONTACT DRIVE DEVILBISS HEALTHCARE LTD. OR YOUR LOCAL DISTRIBUTOR

1. Contact Information

Thank you for purchasing a Drive DeVilbiss Healthcare Athena Advanced Low Air Loss System. For safety reasons it is imperative that these instructions are read and fully understood before the product is used for the first time. For assistance in setting up, using or maintaining your product or to report unexpected operation refer to the contact details found below. This user manual is intended to be read by professional users only, not lay persons/patients.

Contact Information

For any service, warranty, sales or customer service information on this product please contact your local distributor or if in doubt contact Drive DeVilbiss Healthcare Ltd at the following address.

Drive DeVilbiss Healthcare Ltd.
Sidhil Business Park
Holmfield
Halifax
West Yorkshire
HX2 9TN
United Kingdom

Service & Maintenance

Tel: +44 (0)1422 233136
Fax: +44 (0)1422 233010

Spares

Tel: +44 (0)1422 233138
Fax: +44 (0)1422 233010

Customer Service

Tel: +44 (0)845 0600 333
Fax: +44 (0)845 0600 334

info@drivedevilbiss.co.uk
www.drivedevilbiss.co.uk

If a serious incident occurs in relation to the product, reports should be forwarded to Drive DeVilbiss Healthcare Ltd., the MHRA and/or the local competent EU authority in which the patient is established. Please quote the product serial number on all correspondence.

For Service & Support outside the UK & Northern Ireland please contact the local distribution company from where this equipment was purchased. Failure to do so may result in the manufacturer's warranty becoming void.

2. Product Description

2.1 Environment

Your dynamic system is intended for use in the following environments:

- A hospital where intensive/acute care is provided and medical supervision is required and monitoring provided.
- A long term care area where medical supervision is required and monitoring is provided if necessary (e.g. nursing homes, rehabilitation facilities, geriatric facilities).

2.2 Intended Patient Group

The mattress is intended to support a single patient who is up to 250kg in weight and 185cm in height. For those patients of a very low weight, typically less than 40kg and a physical size less than 146cm, clinical judgment is to be used to determine suitability. A lower (or upper) age limit is not defined as it depends on the physical size of the patient in relation to the proportions of the mattress and bed frame.

2.3 Intended Use

The mattress is intended to provide pressure redistribution to patients who are at risk of, or who have developed, a pressure related tissue injury.

- To help and reduce the incidence of pressure ulcers while optimizing patient comfort.
- For home care, long-term care, and hospital care patients suffering from pressure ulcer.
- For pain management as prescribed by a physician.

2.4 Indications

To assist as part of an overall plan of care, in the management of pressure related tissue injuries for patients (as specified above).

2.5 Clinical Benefits

The alleviation of pressure between the patient and the mattress surface.

2.6 Product Overview

An air filled support surface is kept inflated by a compressor, housed within a control unit, where they are connected together via an umbilical tube.

The control unit is mains powered and it is expected to be permanently plugged into the mains when in use. Via the control unit the mattress can operate in five different modes:

- Alternate: air cells alternately inflate/deflate at selected time intervals.
- Static: air cells set to consistent pressure.
- Pulsation: pulsates between a decreased and increased pressure level in all cells.
- Seat Mode: inflates cells to prevent bottoming out.
- Max inflate: air cells set to maximum pressure.

After inflation, the control unit automatically sets the cell pressure to a pre-determined value, but the comfort level can be adjusted by manually adjusting the cell pressure up or down. Should a fault occur (such as a power failure or loss of pressure) an audio & visual alert is triggered.

The support surface and control unit are intended to be positioned on compatible support platforms only.

The system is classified as a multiple patient multiple use medical device, where it is intended to be used multiple times by multiple patients see section 12 for specification.

The mattress is suitable for use for all categories of pressure ulcer including Deep Tissue Injury (DTI) and Unstageable, alongside a completed risk assessment taking into consideration but not limited to mobility status, skin condition, nutritional and continence status plus a patient specific turning schedule.

2.7 Features

2.7.1 Control Unit

- Alternating Mode – providing pressure redistribution over a 10, 15 or 20 minute cycle in a AB (2 in 1) pattern.
- Pulsation Mode - alternately increases and decreases the mattress cell pressures every 15 seconds.
- Max Inflate Mode - automatically inflates all cells to the maximum pressure setting (firm). This can be beneficial when moving or repositioning a patient. Once the maximum pressure level is reached, the control unit will automatically revert back to static mode and the previously selected comfort weight setting.
- Seat Mode - when the backrest of the bed is raised beyond 25° the internal cell pressures are automatically increased by 10% to provide additional sacral support.
- Static Mode - a constant air pressure throughout the mattress based on the comfort weight setting.
- Comfort Weight Settings - pressure control system can be manually adjusted via the comfort weight control to provide maximum user comfort. Pressure can be increased (+) or decreased (-) between settings 1 (40kg) to 10 (250kg).
- Cycle Time - adjusts and selects mode cycle time, cycle time options are 5, 10, 15 and 20 minutes.

2.7.2 Mattress

- Includes 20 cells, 'Cell on foam' construction reduces the risk of 'bottoming out' as the lower section of each cell is located a supportive foam base.
- The top cover is multi stretch, water resistant and vapour permeable.
- Welded seams and a waterfall flap reduce the risk of fluid ingress.
- An anti-fungal agent is encapsulated in the cover to help control microbial deterioration. The cover features a white inner substrate to assist in identifying signs of cover damage and strike-through.
- The mattress bottom cover includes a cable management system to safely route the power cable and reduce the risk of a trip hazard.
- Two 180° zips allow ease of access to the internal cells.
- The mattress has 8 strategically positioned straps to enable it to be easily secured to a bed frame (movable parts only).

3. Safety

3.1 Warnings and Cautions

- Warnings in the user manual highlight potential hazards that if disregarded could lead to injury or death.

- Cautions in this user manual highlight potential hazards that if disregarded could lead to equipment damage or failure.

3.2 Risk Assessment

Support platforms used with the mattress can vary greatly depending on the specific healthcare setting (i.e. hospitals, nursing homes, home care etc). It is the responsibility of the carer to carry out the necessary risk assessment to ensure suitable product compatibility and the safety of the patient.

Before a patient uses the dynamic system a risk assessment must be performed on a patient by patient basis. The risk assessment should include, but is not limited to:

- Product combinations (bed frame, mattress, side rails etc.).
- Extent of tissue damage (if any).
- Entrapment.
- Patient falls.
- Compatibility of the patient to the mattress size.
- Patient with burns.
- Unauthorised people with access to the controls.
- Patients who have reduced capacity and are agitated and/or restless.
- Small adults/children.

3.3 Contraindications

Patient conditions for which the application of pressure relief on an alternating support surface is a contraindication are as follows:

- Cervical or skeletal traction, mattress only.
- Unstable skeletal fractures, mattress only.
- Unstable spinal injury, mattress only.
- Exceeds maximum patient weight of the support surface.
- Gross Oedema (when using alternating mode only).
- Any wounds can't be in direct contact with the mattress.

Other contraindications may be relevant which are specific to the patient or care environment.

3.4 Product Loading

- Athena Advanced Mattress maximum patient weight is 250kg (39 stone).

- Maximum loads shown in this document are for the product when occupied by one person only. The product is not designed to take the weight of additional patients/visitors. Additional weight could damage components or cause the product to fail completely, causing injury.
- Children should not be allowed to play with the product.
- The product is not intended to be used when loaded to a weight higher than that stated in this document. Operation/use of the product at weights higher than those outlined in this document may lead to product damage and patient/carer injury or death.

3.5 Training

All users of the product are to be suitably trained prior to use. It is the responsibility of the end user to ensure they have received sufficient training to use the product and any associated accessories safely and correctly.

For further information in regards to training options please contact Drive DeVilbiss Healthcare Ltd. or your local provider (see Section 1).

3.6 General Warnings

- The system is to be installed and put into service in accordance with the information provided in these instructions for use.
- The mattress is typically not suitable for child use, if it is to be used for child occupancy ensure a risk assessment has been undertaken taking into account the proportions of the child and dimensions of the support surface.
- Exposure of the control unit to any liquid while it is plugged in could result in a severe electrical hazard.
- The control unit is a precision electronic product. Use care when handling or transporting it. Dropping or other sudden impacts may result in damage to the unit.
- Do not open the control unit – Risk of electrical shock.
- Repairs and service are to be conducted by suitably trained personnel. If the control unit is not functioning properly, or has been damaged, unplug the unit and take it out of service immediately.
- Modification of the support surface or control box is not allowed without the permission of Drive DeVilbiss Healthcare Ltd. – A hazard could be introduced.
- Occupants and users of this equipment must never smoke in close proximity to the control unit, mattress or bedding being used with it - Risk of fire.
- Control unit shall not be used in the presence of flammable gasses or used in oxygen rich environments – Risk of explosion / fire.
- Control unit functions must be locked out when a patient is left unattended.
- If children, adults who lack capacity or even pets pose a potential risk of intentional or unintentional tampering with the control unit its suitability for use is to be considered during the initial patient / product risk assessment.
- Minimise articles (e.g. bedding) between the support surface and patient, and secure bed sheets loosely so as not to affect support surface functionality.
- Perform regular patient skin checks – Any tissue deterioration may require equipment reallocation and/or a re-assessment of the care being provided.
- External sources of heat and cold, (e.g. sunlight or air conditioning units) can impact the surface temperature of the support surface and/or control unit, ensure the system is appropriately positioned such that surface temperature is not adversely affected.
- Incompatible support platforms (e.g. a bed frame or chair) can create stability hazards.
- Misused electrical equipment can be hazardous.
- The support surface must never be used in combination with underlay or overlay surfaces. The use of such surfaces could adversely affect the performance of the mattress and create entrapment/falls hazards.

4. Transport & Storage

4.1 Transport

Where possible, it is recommended the transport of mattresses should be carried out on a flat based trolley or mattress trolley. Do not drag or pull the mattress by its cover, use handles where available. Please follow local moving and handling policies and guidelines when handling a mattress. It is recommended that two people manoeuvre the mattress.

The following conditions should be followed when transporting and storing the product. Note this does not apply to the transfer of the product between wards and/or when the product is in use.

4.2 Storage

- Detach the control unit from the mattress, mattress should deflate.
- Lay the mattress out flat and position upside down.
- Ensure there is no air trapped in the cells.
- Position the control unit on the mattress.
- Can be rolled from the head end towards the foot end (ensuring the control unit is fully covered).
- Place into storage bag to protect from dirt, debris, fluids etc.

Transport and Storage Conditions

Ambient temperature:	-25°C to 70°C
Relative humidity:	10% to 90%, non-condensing
Atmospheric Pressure:	700hPa to 1060hPa

- To prevent the risk of cross infection, when removing the system from an end user's residence ensure that all activities in relation to the system are carried out using disposable gloves and that they are then discarded appropriately, unless it can be verified that the mattress and control unit have been suitably cleaned and disinfected prior to collection.
- On the return of the system from an end users residence, prior to putting into storage ensure it has been cleaned and disinfected in line with the local infection control policy and / or as defined in section 10 of these instructions for use.
- Do not remove the mattress from the support surface if the patient is still on it - Risk of falling.
- If it is essential that the patient is moved whilst remaining on the mattress, ensure the system is immediately plugged back in to the mains power supply once relocated.

- Do not fold or stack mattresses and/or control units as damage could be incurred.
- Do not store whilst inflated as damage could be incurred.
- Do not store objects such as side rails on top of the mattress as damage could be incurred.

5. Symbol Definition

Warning
Beware of potential hazard

Refer to instructions for use - Mandatory
Failure to read the instructions for use could introduce a hazard.

Country of manufacture

Foot end (Mattress Only)

Do not iron

Tumble dry on low heat

Zip location

Conforms to the Medical Devices Regulation 2017/745

Humidity Limit

Temperature limit

EU Importer

Class II Electrical Device
The user is protected by at least two layers of insulation between the current carrying parts and the metal accessible parts

Mattress max patient weight

Type BF applied part
Applied Part: The parts of the device that come into contact with the patient in order to carry out its intended function.
Type BF: Applied parts which are electrically isolated from earth and other parts of the medical equipment - Complying with specific requirements for protection against electric shock to IEC 60601-1.

Caution
Beware of potential product damage

Manufacturer

Machine wash at 71°C for no less than 3 minutes or 65°C for no less than 10 minutes. For full details see section 8.

Do not dry clean

Drip dry

Do not bleach

Keep out of direct sunlight

Medical device

Product Reference

Serial Number

Surface (Mattress)

No Smoking

Conforms to Medical Devices Regulation

Safe working load

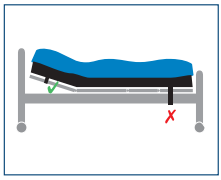
6. Installation and Preparation for Use

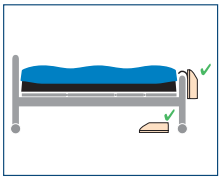
When specifying a mattress, bed and side rail combination, a clinical assessment of the patient's needs must be carried out in line with local policy.

- After assembly of the device there should be no loose parts remaining, however consideration is to be taken in the event of spare components and small packaging parts (cable ties, plug pin protector) being evident to minimise the risk of them being swallowed by the occupant or any other person; this could pose a choking hazard.
- Ensure the mattress is used with a compatible side rail and bed frame combination – Incorrect combinations can lead to entrapment and/or falls hazards.
- Ensure the support surface is of the correct type for the patient – Incorrect mattress specification could lead to an injury.
- The mains plug is the disconnect device for the means of isolating the control unit from the mains supply, the plug must be accessible at all times.
- Ensure the mains cable is plugged into an appropriate power source at all times.
- Do not route the mains cable through/around mechanical bed assemblies, or in a position that may cause a trip hazard and/or damage to the cable.
- Ensure the mains cable is not in tension, paying particular attention to when the bed/chair travels up/down.
- Precautions are to be taken when routing the mains cable around the bed or chair to ensure that it does not become squeezed, trapped or damaged by the bed frame or other ancillary equipment - Risk of electrocution.
- Do not place any objects or items, such as blankets, on or over the control unit - Risk of fire.
- Any electrical cable that is part of the mattress system or associated ancillary equipment that is found to be damaged must be replaced immediately - Damaged electrical cables can create a risk of electrocution and / or fire.
- A CE marked extension cable must only be used when it is not possible to reach a wall socket with the equipment mains cable – Contact Drive DeVilbiss Healthcare Ltd. for detail in regards to safe use of extension cables.
- If an extension cable is used never overload it by plugging in appliances that together will exceed the maximum current rating stated for the extension cable. Block adaptors are not to be used. – Risk of fire.
- Ensure the mattress is compatible with the side rails (if fitted).
- Accessories and mattresses that have not been approved for use with the product are not to be used - a hazard could be introduced due to product combination incompatibility.
- Ensure multiple socket outlets are not positioned under the support platform - Liquids that leak onto such a socket could pose an electrical / fire risk.
- Consideration is to be taken in the positioning of the mains cable and air hose to minimise the risk of accidental strangulation resulting from patient, baby or child entanglement – Drive DeVilbiss Healthcare Ltd. recommend the use of the mains cable routing sheath that is incorporated down the length of the mattress.
- Keep away from sources of heat and naked flames (e.g. cigarettes, fireplaces, electric fires, fan heaters, electric blankets etc.) – Risk of damage / fire.
- Avoid placing the mattress system in a moisture rich environment - Prolonged exposure to moisture could damage the electrical system and pose an electrical/fire risk.
- Incompatible support platforms (e.g. a bed or mattress) can create safety/stability hazards.
- Before use, it is important to ensure the patient can reposition themselves, or will be repositioned on a regular basis; please follow local policies, recognised national or international guidance.

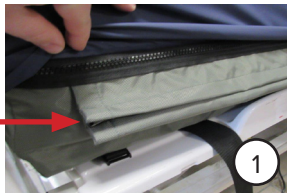
- Open all packaging with care.
- Ensure the mattress and control unit are free from dirt, dust and moisture upon arrival.
- Once removed from the packaging check the product for any signs of damage. If damaged do not put into use and contact your provider or Drive DeVilbiss Healthcare Ltd. (See Section 1).
- Remove all covers, sheets and the existing mattress from the bed.
- Position the mattress on top of the bed frame, top cover facing upwards and air hose at the foot of the bed for control unit positioning.

- Attach mattress to the bed frame by securing the adjustable straps to the moving sections of the bed.
- Position the control unit by hanging the hooks over the foot board. If there is no foot board place the unit on the floor with the front facing upwards. Ensure the rear of the unit is not obstructed by carpet, rugs etc. It is advisable to place the unit on a firm surface.





- Attach the umbilical cord to the control unit, ensuring the air hose does not kink or become trapped between parts of the bed frame.
- Route the mains cable down the length of the mattress using the integral cable routing. Lift waterfall flap to locate cable routing (1), unzip the entire length of the mattress (2) and insert the cable. Close the zip around the cable, down the full length of the mattress (3). It is advised not to wrap the cable tightly but to leave some slack.



- Plug the mains cable into a suitable mains supply and switch on the control unit (see section 7).
- The support surface will start to inflate. Inflation can take upto 5 mins product dependent. Once inflated, ensure the straps that attach the mattress to the bed frame are secure and hold the mattress in place, adjust as necessary.
- Once the mattress is fully inflated, the bedding can be replaced. Secure sheets loosely enough to ensure they do not interfere with cell alternation.
- Proceed to section 7 for Operation.

The Athena Advanced mattress is intended for use with medical bed frames which have a platform of approximately 2000mm x 900mm and with suitable mattress retention.

Drive DeVilbiss Healthcare Ltd. bedframes are known to have mattress support platforms that are compatible with the Athena Advanced dynamic mattress. Refer to individual bed instructions for use for mattress and side rail compatibility.

Power Failure Indicator illuminates if power is lost. In the event of a power failure, leave the mattress connected to the control unit. See no.2 to mute alarm. Reconnect to mains supply at earliest opportunity.

7. Product Operation

7.1 Operational Limits

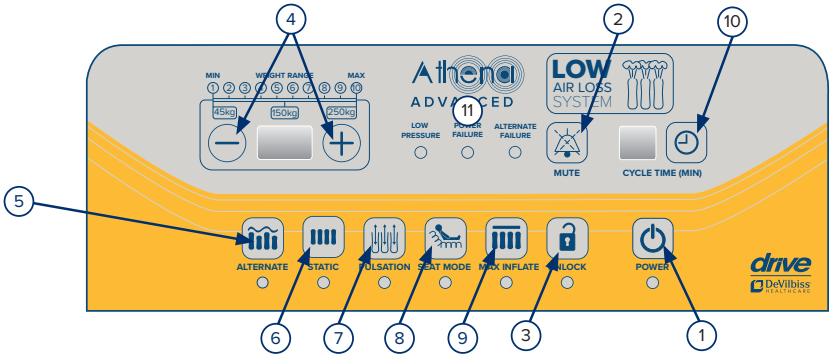
Ambient temperature:	-5°C to 40°C
Relative humidity:	15% to 90%, non-condensing
Atmospheric Pressure:	700hPa to 1060hPa

7.2 Preparing For Use

Prior to patient use of the dynamic system the following must be performed:

- Ensure the support platform and support surface are at room temperature.
- Ensure that both have been cleaned and disinfected (see section 8).
- Ensure the support surface cover has been checked for tears, punctures, abrasion marks etc. and that their are no signs of fluid ingress.

7.3 Control Interface



No.	Symbol	Description
1		Turns system on/off. Green LED indicates system is on.
2		Mutes the audible alerts. Visual alerts will flash until problem is solved.
3		Locks/unlocks interface functions. Green LED indicates system is locked.
4		Increase (+) or Decrease (-) comfort weight settings.
5		Selects alternating cycle, see no.10 for cycle time adjustment.
6		Selects static, constant air pressure based on the comfort weight setting.
7		Selects pulsation cycle, increases and decreases pressure in cells every 15 seconds.
8		Selects seat mode, pressure increases in appropriate cells to prevent patient bottoming out.
9		Selects max inflate, reverts back to previous comfort weight setting once maximum pressure is reached.
10		Adjust cycle time value, selected value shown. 5, 10, 15 and 20 minute intervals available.
11		Visual failure alerts, orange LED indicates failure.

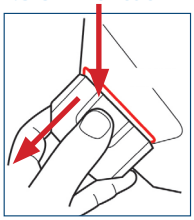
7.4 Control Unit Operation

- Turn control unit ON, switch the power switch on the side of the control unit before pressing the power ON/OFF button. Green LED will indicate system is ON.
- When the control unit is initially turned ON, the control will enter an automatic inflation mode, if the mattress can't be fully inflated within 5 minutes, the low pressure alert will be triggered.
- Once fully inflated, the system will automatically enter into alternate mode.
- Select the desired cycle time value using the cycle time adjustment button, the comfort weight setting should then be adjusted to suit the patient.

- The comfort weight setting is not to be used for medical purposes or as a measurement function, it is to act as information only.

- Once the system has been set, re-check it after approximately 20-30 minutes to ensure the patient is comfortable and that the system is providing suitable support. Clinical judgement should be used to ensure the mattress system is suitable for the patient.
- Press alternate, static, pulsation or seat mode to adjust to the desired therapeutic mode according to patient's needs or the suggestion from a health care professional.
- Max inflate mode can be selected to inflate the mattress to maximum pressure when further support is required eg. ingress/egress or a nursing procedure.

7.5 CPR Function



- Rapid deflation of the mattress may be required for emergency treatment or system deflation.
- Disconnect the umbilical cord from the control unit by pressing down the release button and before pulling away. When removed from the control unit the air within the mattress will escape.
- To re-inflate, re connect the umbilical cord.
- Wait for the mattress system to reach optimal pressure prior to a return to normal use.

7.6 Use of Incontinence Products

Incontinence products such as sheets or pads can be used with the system, however product performance is likely to reduce due to the reduced effectiveness of the alternating pressure distribution.

If incontinence products are to be used it is recommended that regular patient skin checks are performed to ensure skin integrity is maintained.

8. Decontamination

- Always disconnect the support surface and bed frame from the main power supply prior to cleaning.
- The control unit is rated to IP21 and provides protection from condensation only, do not immerse or soak the control unit – Risk of electric shock.
- Regular cleaning and disinfection of the support surface will help to prevent the risk of infection to the occupant and/or carer.
- Prior to transferring the mattress system to another user ensure it has been cleaned and disinfected using the method as detailed below to help prevent the risk of cross infection.
- Deviations from the specified cleaning and disinfection instructions can cause serious hazards, and adversely affect the life and efficacy of the system.

- The use of neat bleach or similar surface cleaners are not recommended as damage may be caused to the cleaned surfaces.

8.1 Cleaning & Disinfection Guidelines

Infection control and routine cleaning must be carried out in accordance with your local Infection control policy or regulatory body.

Before attempting to clean the control unit or the mattress both are to be checked for physical signs of damage. If damage is found on the control unit please take out of use. The mattress top cover is to be checked for physical signs of damage that may lead to strike-through (ingress of fluid through cover). This is achieved by unzipping the top cover and looking for signs of staining to the white underside. Any evidence of strike-through (and / or cover damage) will require a new cover to be fitted to the mattress.

General Cleaning:

- The product should be cleaned by starting with the cleanest parts of the product and systematically moving to the dirtiest parts. Extra care should be taken around where excess dirt or dust may gather.
- The cloth should be changed during the cleaning process if it becomes soiled.
- Wipe down with a clean cloth moistened with a mild detergent and diluted in warm water (40˚C).
- Rinse with cold clean water and a clean cloth and allow to fully dry before use.

Decontamination:

- Mop up any fluid with paper towels.
- Wipe product down using cold clean water.
- Wipe down with a 0.1% Chlorine solution (1,000ppm) in cold water.

Rinse with cold clean water and a clean cloth and allow to fully dry before use. Always ensure the cleaned parts are allowed to dry before putting the mattress back in place.

In cases of blood spills or other bodily fluids it is recommended that a 1% Chlorine solution (10,000ppm) can be used instead. If any of the stages stated are omitted or combined it will reduce the effectiveness.

Alternative Cover Cleaning:

- Alternatively disinfection of the cover may be achieved by laundering
- Remove cover.
- Machine wash at 71°C for not less than 3 minutes or 65°C for not less than 10 minutes. Heavily soiled items should also have a pre-wash/sluice cycle.
- Allow covers to fully dry before use.

(Refer to the Department of Health document HTM 01-04 for further details).

9. Maintenance

- Always disconnect the product from the main power supply prior to performing any maintenance procedures.
- No modification of the equipment is allowed.
- The dynamic system should be vacated by the patient before any maintenance or inspection takes place. If this is not possible due to the patient's mobility, care should be taken for the service engineer not to make contact with the patient when working on electrical items.
- Only Drive DeVilbiss Healthcare Ltd. approved components specified for the Athena Advanced dynamic system are to be used - if in doubt contact Drive DeVilbiss Healthcare Ltd. or your local distributor.
- Never attempt to re-wire any components.

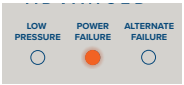
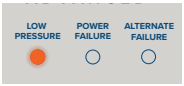
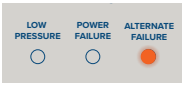
Only authorised service personnel or Drive DeVilbiss Healthcare Ltd. service engineers should carry out repairs or service activities. For Service & Support outside of the UK & Northern Ireland please contact the local distribution company from where this equipment was purchased. Failure to do so may result in the product warranty becoming void. The mattress system must be serviced once yearly, as a minimum. Drive DeVilbiss Healthcare Ltd. also recommends that the carer performs frequent visual and operational inspections. If there are any signs of damage or the system is not performing as it should withdraw it from service until the system has been repaired and is fit for use again.

Drive DeVilbiss Healthcare Ltd. recommends that the following maintenance procedure is performed every 12 months:

- Check that the air filter is in good condition and replace or clean as required.
- Check that all electrical functions operate correctly on the control unit.
- Check that all audible and visual indicators work appropriately (when plugged in and unplugged from mains supply).
- Check that the battery is still functional and operates in the event of a power loss.
- Check that the surface reaches the required pressures.
- Check the CPR connection on the mattress.
- Check the cover for tears, punctures, abrasion marks and split seams.
- Check for signs of fluid ingress/staining to the underside of the cover.
- Check that all piping and cells within the surface are in good condition and that there is no kinking evident.
- Check the control unit housing is not cracked or damaged, if damaged the control unit must be removed from operation immediately.

9.2 Fault Finding

Listed below are a set of electrical faults that may occur within the service life of the product. If a fault does occur please try the following suggestions, as these may help in diagnosing the fault.

Fault	Indication	Actions
Power Failure		• If mains plug, cable or outer casing is visibly damaged turn off at the mains and contact your approved service engineer. 1. Press the mute button to silence the alert and turn off the mains supply. 2. Check the mains cable is fully connected to the control unit and plugged into a wall socket. 3. Switch on at the wall (to ensure the socket is working, plug in a fused device that is known to work). 4. Turn on the control unit. If control unit still fails to operate turn off at the mains and contact your approved service provider.
Incomplete Inflation / Low Pressure		1. Ensure the mattress air connector is correctly connected to the control unit. 2. Turn the unit off and then on again to clear the indicator. If a 'low pressure' indicator continues to illuminate: 3. Open the mattress and ensure there is no air leakage within the mattress – cells, tubing and connectors. 4. Turn the unit off and then on again to clear the indicator. 5. If a low pressure indicator is still evident turn off at the mains and contact your approved service provider.
Alternate Failure		1. Turn the unit off and then on again to clear the indicator. 2. Check all therapy modes function as intended. 3. If an alternate failure indicator is still evident, contact your approved service provider.
Patient is bottoming out		1. Ensure the patient is suited to the maximum rating of the mattress. 2. Ensure the patient is centrally positioned on the mattress. 3. Increase the pressure setting.

10. Disposal of Product

When the product frame, any associated accessories and/or the electrical system has come to the end of its useful life, follow local recycling and W.E.E.E (Waste Electrical and Electronic Equipment) policies – for further information contact Drive DeVilbiss Healthcare Ltd. (see section 1).

The electrical system on the product frame is not to be disposed of in general municipal waste. Some of the electrical components could be harmful to the environment and where viable the components can be recovered and reused/recycled.

The steel and plastic components are also to be separated and disposed of following the local recycling policy as these can also be recovered and recycled.

- The product and any associated accessories are to be decontaminated before disposal to avoid risk of cross contamination.

11. Electromagnetic Compatibility (EMC)

The product's electrical system has been designed to meet the EMC requirements of EN 60601-1-2 however it may still be affected by or emit harmful radio frequency (RF) energy. The RF emissions from the electrical system are very low and are not likely to cause any interference to nearby electronic equipment, however interference to sensitive equipment is still possible. Likewise if the immunity limits of the electrical system are exceeded the system may be seen to operate abnormally.

If the product or any alternative equipment is found to be operating abnormally turn off the piece of equipment that is believed to be causing the interference (if possible) to identify the source of the RF energy. Once identified mitigation measures are to be taken, such as the separation distances being increased and/or the device(s) being re-orientated.

The product is to be installed and put into service according to the information provided within this section to ensure reliable operation, however if the product continues to operate abnormally turn off at the mains supply and contact Drive DeVilbiss Healthcare Ltd. or your local distributor (see section 1).

For specific emissions and immunity information relating to the product, please contact Drive DeVilbiss Healthcare Ltd or your local distributor (see section 1).

- The product frame should not be used adjacent to or stacked with other equipment where possible, if adjacent or stacked use is necessary the product should be observed to verify normal electrical operation in the configuration in which it is to be used.
- Use of accessories and cables other than those specified or provided by Drive DeVilbiss Healthcare could result in increased electromagnetic emissions or decreased electromagnetic immunity of the product and result in improper operation.
- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm to any part of the product (including its cables), otherwise a degradation in performance could result.

12. Specification

Classification:	Electrical shock protection: Class II, Type BF
	Applied Part: Mattress
Ingress protection:	IP21**
	Not AP or APG equipment*
Supply Rating:	120V, 60Hz
Fuse Rating:	Mains Plug – 5A
Mains plug:	Type G/BS1363
Battery Type:	NiMH (Nickel Metal Hydride)
Mattress Dimensions:	(L) 2020mm x (W) 910mm x (D) 250mm
Mattress Weight:	10kg
Maximum Patient Weight:	250kg (39 stone)
No. of Cells:	20 cells
Alternating Therapy:	AB pattern
Cycle Time:	5, 10, 15 or 20 minutes
Pressure Range:	15 – 33 ±2mmHg
Control Unit Dimensions:	(L) 180mm x (W) 390mm x (D) 165mm
Control Unit Weight:	4.1 kg
Cover Material:	Dartex®
Cell Material:	TPU
Base Material:	Nylon/PU
Transport and Storage Conditions:	Ambient Temp: -25°C to +70°C
	Humidity: < 90%, non-condensing
Operational Conditions:	Ambient Temp: +5°C to +40°C
	Humidity 15% - 90%, non-condensing
Atmospheric Pressure:	700hPa to 1060hPa
Operating Altitude:	≤ 2000m
Pollution:	Degree 2
UV:	Intended for indoor use only
Noise level:	51.5 dB
Safety Standards:	IEC/EN 60601-1
	IEC/EN 60601-1-11
	IEC/EN 60601-1-2
	Cover complies with BS7175:1989 - Medium Hazard
Expected Service Life:	2 Years***

**Always ensure the product is brought up to room temperature before operating.

***The service life of the product and its components are dependent on it being serviced and maintained in accordance with the information in Section 9 of these instructions.

13. Warranty

Drive DeVilbiss Healthcare Ltd. warrants that this product will perform in accordance with its specification and will remain free from defects in material and workmanship when used under normal conditions for a period of 2 years (which specifically is - 2 years full parts and labour) from the date of purchase from Drive DeVilbiss Healthcare Ltd. and its subsidiary companies. If purchased from an authorised dealer or international distributor, the product is warranted for 2 years parts only.

Drive Devilbiss Healthcare Ltd. makes no other warranties, express or implied, and all implied warranties of merchantability, non-infringement and fitness for a particular purpose are hereby disclaimed. in no event will drive Devilbiss Healthcare Ltd. be liable for punitive, special or consequential damages, or for an amount in excess of the purchase price of the defective Drive Devilbiss Healthcare Ltd. product or products.

Proof of purchase must be presented with any claim. Except as provided herein, this warranty will not apply to any Drive DeVilbiss Healthcare Ltd. products that have been (a) damaged by lightning, water, or power surges, (b) neglected, altered, abused, or used for a purpose other than the purpose for which they were designed, (c) repaired by you or any other party without Drive DeVilbiss Healthcare Ltd.'s prior written authorisation, (d) used in conjunction with a third party product or products not approved in advance by Drive DeVilbiss Healthcare Ltd., (e) damaged or failed by or attributes to acts of God, (f) damaged, caused by failure to follow instructions,or (g) otherwise used in a manner inconsistent with any instructions provided by Drive DeVilbiss Healthcare Ltd. The warranty explicitly exempts consumable items.

This warranty contains the entire agreement between you and Drive DeVilbiss Healthcare Ltd. with respect to any warranty matters, and supersedes any and all other written or oral statements, representations or agreements relating to the subject matter of this warranty.

In the event of a product defect during the warranty period you should contact your supplier, whether it be Drive DeVilbiss Healthcare Ltd., its subsidiary companies, authorised dealers or international distributors who will at their option unless otherwise provided by law; a) correct the defect by product repair within the terms of the warranty b) replace the product with one of the same or similar design or c) refund the purchase price. All replaced parts and products on which a refund is made become the property of Drive DeVilbiss Healthcare Ltd. Repaired or replaced parts and products are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the product made after the expiration of the warranty period.

This limited 2 year warranty gives you specific legal rights and you may also have other rights.

Drive DeVilbiss Healthcare Ltd. cannot be held responsible for any injury or incident which relates to the use of this mattress in conjunction with accessories manufactured by companies other than Drive DeVilbiss Healthcare Ltd.

Drive DeVilbiss Healthcare Ltd. has a policy of continual product improvement and reserves the right to amend specifications covered in this document. No part of this document may be reproduced without the written approval of Drive DeVilbiss Healthcare Ltd.

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BHTA British Healthcare Trades Association

drive DeVilbiss HEALTHCARE