Frequently Asked Questions (FAQs)

Air Mattress & Pump System

Oscillia 5-inch Alternating Pressure Air Mattress System

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1. What is this Air mattress system used for?

This system is designed for the **prevention and treatment of bedsores (pressure ulcers)**. It is especially useful for patients who remain in bed for extended periods. The alternating pressure helps reduce continuous pressure on specific body parts, minimizing skin damage and improving patient comfort.

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2. How does the Air mattress system work?

The system operates using a **pump that inflates and deflates air cells alternately** within the mattress. This shifting pressure redistributes body weight and improves blood circulation, which helps prevent tissue breakdown and promotes healing.

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3. Who should operate this system?

The system should be operated by **trained caregivers, nurses, or healthcare professionals** who understand patient positioning and pressure management. Proper operation ensures both safety and effectiveness.

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4. Can the system be used at home?

Yes, it is suitable for home use. However, it should be used under **proper guidance from a healthcare provider** to ensure correct setup, pressure adjustment, and patient monitoring.

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5. Is it safe for all patients?

While generally safe, it should only be used based on **medical advice**, especially for patients with fragile skin, severe conditions, or specific medical complications.

6. How should the mattress be placed?

Place the air mattress **on top of a standard mattress**, ensuring that the **air hose connectors are positioned at the foot end**. This ensures proper alignment and easy connection to the pump.

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7. Where should the pump be placed?

The pump can be either **hung on the bed footboard** using hooks or placed on a **flat, stable surface**. Ensure it is positioned in a way that allows proper airflow and easy access.

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8. How do I connect the mattress to the pump?

Attach the air hoses from the mattress to the pump connectors securely. Ensure the connections are tight and properly aligned to prevent air leakage.

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9. Why is it important to avoid kinks in hoses?

Kinked or bent hoses restrict airflow, which can result in **uneven inflation, low pressure, or system malfunction**. Always ensure hoses are straight and unobstructed.

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10. What should I check before switching ON the system?

Before starting:

- Ensure all connections are secure
- Confirm hoses are not kinked
- Check power supply is stable
- Verify mattress is properly positioned

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11. How do I start the system?

Plug the power cord into an electrical outlet, switch ON the mains power, and turn ON the pump. The mattress will begin inflating automatically.

12. How do I adjust the comfort level?

Use the control buttons (Soft and Firm) to adjust settings between **1 to 8**, where lower values provide softer support and higher values provide firmer support.

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13. What happens after adjusting the pressure setting?

After changing the setting, allow **a few minutes for the system to stabilize**. The mattress needs time to adjust air pressure across all cells.

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14. Can the system run continuously?

Yes, the system is designed for **continuous operation** to maintain effective pressure redistribution.

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15. What should I do if the mattress feels too soft or too hard?

Adjust the pressure setting gradually and allow time for stabilization. Avoid making frequent rapid adjustments.

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16. Why is the mattress not inflating properly?

Possible causes include:

- Air leakage in mattress or tubes
- Loose connections
- Blocked or kinked hoses

Inspect all components carefully.

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17. What if pressure remains low even after adjustment?

Check for:

- Holes or punctures in mattress
- Loose or damaged tubes

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18. How can I detect air leakage?

Look for visible damage and listen for hissing sounds. You may also feel escaping air around connections or mattress cells.

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19. What should I do if the pump is not working?

Check:

- Power connection
- Electrical outlet
- Fuse condition

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20. Can the pump be used near water?

No. Always keep the pump away from water or fluids to prevent **electric shock hazards**.

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21. Can I open or repair the pump myself?

No. Only **authorized service personnel** should open or repair the device.

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22. Should the unit be unplugged when not in use?

Yes, especially if it will not be used for an extended period.

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23. What should be avoided near the mattress?

Avoid:

- Sharp objects (can puncture mattress)

- Chemicals like acids or alkalis (can damage material)

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24. What happens during an electrical short circuit?

The fuse is designed to blow and protect the device from damage.

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25. How should air tubes be cleaned?

Use a **soft swab or cloth** to remove dust or blockages.

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26. How often should maintenance be performed?

Regular inspection is recommended to ensure proper functioning and safety.

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27. What parts should be checked regularly?

- Air tubes
- Connections
- Mattress surface
- Pump condition

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28. How should the mattress be stored?

- Turn OFF power
- Disconnect pump
- Fully deflate mattress
- Store in a clean, dry place

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29. How can I deflate the mattress quickly?

Disconnect the air tubes to allow rapid air release and also open the CPR valve.

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30. How should the mattress be folded?

Fold from **foot to head** after complete deflation.

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31. Does the Air Mattress Pump have a battery backup?

No, the Air Mattress pump does not have a battery backup. When the mains supply is lost or has temporarily failed, the pump will stop, and the power failure alarm will alarm up to 20 minutes. This is normal and the product will return to normal operation once the mains supply is resumed.

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32. How many cells does the 5-inch air mattress have?

The 5-inch air mattress consists of **16 air cells**.

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33. How does the alternating cell cycle work in the mattress system?

The mattress consists of **16 air cells that alternately inflate and deflate**, while **3 head cells remain static** to provide stable "pillow-like" support for enhanced comfort.

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34. Which materials are used to manufacture the mattress?

The mattress is made using a heavy-duty polyester-PU base sheet along with a vapor-permeable, PU-coated, two-way stretch polyester cover**.**

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35. What feature is provided in the mattress system for use in the event of cardiac arrest?

The mattress has a rapid release twist CPR valve by the head section of the mattress for the event of cardiac arrest. When CPR needs to be performed, quickly rotate the CPR valve to "OPEN" position, at the same time, disconnect the hose connector from the pump to speed up the air release.

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36. When should the CPR valve be open or closed?

The CPR valve should be open in the following situations:

- When performing CPR during sudden cardiac arrest
- When releasing air for packing
- When rapid deflation is required

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37. What is the purpose of the transport cap on the hose connector?

The transport cap is used during patient transfer. For transportation, press the “Auto-Firm” button and wait approximately 5 minutes for the mattress to be inflated. Then, disconnect the hose from the pump unit and attach the transport cap to the hose connector to prevent air loss. This ensures that the mattress remains inflated and continues to support the patient during movement.

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38. How many cycle time options are provided for the alternate function?

The alternate cycle time can be set to 10, 15, 20, 25, or 30 minutes using the Cycle button.

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39. Does the air mattress pump switch to alternate mode immediately after starting?

No, the pump does not switch to alternate mode immediately. Upon startup, it initially enters Auto-Firm mode and inflates all the mattress cells to achieve uniform pressure. The mattress should be fully inflated within approximately 60 minutes, after which the pump returns to the previous operating mode. If no prior mode is set, the pump will automatically goes to alternate mode after approximately 20 minutes.

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40. What is CLP?

CLP stands for Constant Low Pressure. In this mode, the mattress maintains a consistently lower pressure while operating in static mode.

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41. What is the Lock-Out button?

The Lock-Out button secures the control panel to prevent accidental changes to settings. If the panel remains inactive for **30 seconds**, it automatically locks. To unlock the panel, press and hold the Lock-Out button for 3 seconds.

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42. What is the use of Soft and Firm buttons?

The Soft and Firm buttons are used to adjust the mattress pressure according to patient requirements. Pressing the Firm button increases the output pressure, providing enhanced support for heavier patients, while pressing the Soft button decreases the air pressure for improved comfort. These settings can also be adjusted based on the patient's comfort level.

To ensure appropriate pressure selection, slide one hand between a deflated air cell and the patient's buttocks area. There should be minimal contact. Always maintain at least a 1-inch gap between the deflated air cell and the patient's buttocks to prevent "bottoming-out."

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43. What is the Auto-Detect function on the air mattress pump panel used for?

The Auto-Detect function is used to automatically set the appropriate pressure output based on the patient's body weight. It can be activated by pressing the Soft and Firm buttons simultaneously. When activated, the Auto-Detect indicator light flashes, indicating that the pump is adjusting the pressure to determine the optimal comfort level for the patient.

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44. How to Switch ON the mattress pump?

To Switch ON the mattress pump, press the power switch located on the side of the unit.

All LED indicators on the control panel will light up, accompanied by a beep for approximately 2 seconds (this helps identify any indicator failure).

The Standby indicator will then light up. If the pump was previously turned off while in operating mode, it will automatically resume operation in that mode.

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45. How to TURN OFF the pump?

To turn off the pump, first press the OPERATE/STANDBY button to switch the system to standby mode.

Note: The system should always be in standby mode before shutdown.
Then, switch the power button to the OFF position to completely turn off the unit.

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46. Why is the power failure alarm triggered when I turn off the mattress pump?

The Power failure alarm is triggered if the pump is switched off while in operating mode.

To resolve this, press the power switch to restart the system or press the Alarm Mute button to silence the alarm.

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47. Can you tell me what comfort level to set as per the patient weight?

You can set the comfort level to **1** if the patient's weight is between **40-50 kgs.**

You can set the comfort level to **2** if the patient's weight is between **50-60 kgs.**

You can set the comfort level to **3** if the patient's weight is between **60-70 kgs.**

You can set the comfort level to **4** if the patient's weight is between **70-85 kgs**.

You can set the comfort level to **5** if the patient's weight is between **85-100 kgs**.

You can set the comfort level to **6** if the patient's weight is between **100-115 kgs.**

You can set the comfort level to **7** if the patient's weight is between **115-135 kgs.**

You can set the comfort level to **8** if the patient's weight is above **135 kgs.**

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48. What happens if there is an electrical shortage or the power cord is unplugged?

If an electrical shortage occurs or the power cord is unplugged without turning off the pump, the "Power Failure" indicator will light up and an audible alarm will sound for up to 20 minutes. Press the Alarm Mute button to silence the alarm.

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49. What is L.P. Alarm?

L.P. stands for Low Pressure alarm. When an abnormal low pressure occurred in mattress section, the "Low Pressure" indicator will flash and beep. If the situation is not resolved and fault conditions continue, the alarm will resume.

During “low pressure alarm” if the pressure resumes back to normal then the low pressure alarm will stop.

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50. When does Service Alarm indicate?

When fault conditions occur with the system, the "Service" indicator will light up along with buzzer.

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51. What does the S.d warning code indicate?

It indicates a Power Failure or the pump is turned OFF, and the system will shut down.

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52. What does the I.E. warning code indicate?

It indicates **Inflation Ended**, meaning mattress inflation is complete.

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53. What does the A.E. warning code indicate?

The A.E. warning code indicates “**A**uto-Firm **E**nded” meaning the Auto-Firm cycle is complete.

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54. What does the S.E. warning code indicate?

It indicates **Static Mode Ended**, meaning the static cycle is complete.

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55. What does the I.F. warning code indicate?

It indicates **Inflation Failure**, meaning the mattress failed to inflate properly.

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56. What does the A.F. warning code indicate?

It indicates **Auto-Firm Failure**, meaning the Auto-Firm function did not complete successfully.

57. What does the L.P. warning code indicate?

It indicates **Low Pressure**, which may be triggered due to low-pressure in the mattress section.

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58. What does the H.P. warning code indicate?

It indicates **High Pressure**, which may be triggered due to high-pressure in the mattress section.

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59. What does the H.t. warning code indicate?

It indicates **High Temperature**, meaning the ambient temperature is too high.

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60. What does the U.l. warning code indicate?

It indicates **Air Valve 1 Failure**, related to valve positioning issues.

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61. What does the L.b. warning code indicate?

It indicates a **Low Battery** condition.

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62. What does the S.l. warning code indicate?

It indicates a **Service Requirement**, meaning maintenance is needed.

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63. What does the C.U. warning code indicate?

It indicates **Calibration Uncompleted**.

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64. What does the C.C. warning code indicate?

It indicates **Calibration Completed** successfully.

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65. How should the mattress pump be cleaned?

The pump unit should be cleaned using a damp cloth pre-soaked with a mild detergent. Ensure that the unit is kept free from dust. If other detergent is used, choose one that will have no chemical effects on the surface of the plastics case of the pump unit.

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66. How should the mattress be cleaned?

Clean the mattress cover using single-use wipes soaked in a solution of neutral detergent and warm water. Rinse thoroughly with clean water and dry the mattress using fresh single-use wipes.

During cleaning, always visually inspect the mattress for any cuts, tears, cracks, pinholes, or snags. Do not use the mattress if the cover is damaged. If the inner core of the mattress is heavily soiled, it is recommended to replace it.

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67. When is thorough cleaning of the mattress cover required?

Thorough cleaning is required when the cover is heavily soiled or exposed to bodily fluids such as blood.

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68. How should the mattress cover be disinfected?

The cover should be wiped using single-use wipes with a 0.1% chlorine solution (1,000 ppm) and cold water, followed by cleaning with water and drying using fresh wipes.

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69. What is the recommended laundering process?

Before laundering, mattress cover should be completely removed.

- Prewash at 60°C for 15 minutes
- Main wash at 60°C for 15 minutes
- Followed by a cold rinse and extraction

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70. How should the mattress cover be dried?

The cover should be hung and drip-dried in a clean indoor environment or tumble dried on low heat (not exceeding 40°C) for up to 90 minutes.

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71. What is the risk of drying at high temperatures?

Exceeding 40°C can cause significant damage to the mattress cover.

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72. What cleaning products should be avoided?

Phenolic-based cleaning products should not be used.

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73. What is the precaution regarding sunlight after cleaning?

The mattress should not be dried under direct sunlight.

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74. How should the mattress be prepared for storage?

- Rotate the CPR valve to OPEN position and disconnect the hose connector to release the air.
- Lay the mattress flat and roll the mattress from the head end towards the foot end.
- Tight the packing strap around the rolled mattress to prevent unrolling.
- Ensure the hose connector is wrapped around the mattress to prevent kink on the hose connector.
- The pump power cord can be coiled around the pump or disconnected for storage.

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75. What is the General Maintenance to be done for the mattress?

- Check main power cord and plug if there are abrasions or excessive wears.
- Check mattress cover for signs of wear or damage. Ensure mattress cover and tubes are stubbed together correctly.
- Check the air hoses for any kink or break. For replacement, please contact your local dealers.

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76. How to replace the fuse?

- Disconnect the plug from mains power when a blown fuse is suspected.
- Remove the cover of the fuse holder by means of a small screwdriver.
- Insert a new fuse of the correct rating in, and replace the cover of the fuse holder back.

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77. Where is the filter located, and how should it be cleaned or replaced?

The air filter is located at the back of the pump. It is reusable and can be gently cleaned using mild detergent and water. Ensure the filter is completely dry before reuse. In dusty or contaminated environments, the air filter should be checked regularly and replaced if necessary.

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78. User: My mattress is not connecting with the pump. What should I check?

Please verify that the mattress model matches the pump model. Also, ensure the transport cap is removed and the connector is not broken.

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79. User: The pump is not showing any indication. What could be the issue?

Check if the plug is properly connected to the mains supply, ensure the power switch is ON, and inspect if there is any blown fuse.

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80. User: The power failure alarm is not working during a power cut. What should I do?

The pump needs to be charged for at least 6 hours of operation time.

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81. User: The low-pressure light is flashing continuously and an alarm is sounding. What could be wrong?

- Check if the CPR valve is in the closed position.
- Check if the connection between air tubes to pump unit is tightly secured.
- Verify all mattress couplings are properly connected.
- If the mains supply is normal but there is no sound of the pump, please remove the connector from the pump to check if there's air comes out. If not, please turn off the machine and contact the dealer or engineer for further investigation.
- If all connections are fine, press the "Alarm Mute" button and recheck the system.

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82. User: The pump is ON, but the mattress is not alternating. What should I do?

Engineer: Ensure the mattress inflation is complete. Check if the “Alternate” indicator is ON. If not, switch to Alternate mode. Also, check for any service alarm indicator.

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83. User: The service (malfunction) alarm is on. What should I do?

Engineer: Press the “Alarm Mute” button and verify the system again.

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84. User: The pump is making noise during operation. Is this normal?

Engineer: Make sure the pump is placed on a stable and solid surface. If the noise persists, contact the company for assistance. There may be issues in the internal parts.

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85. User: The patient seems to be bottoming out, but there is no alarm. What should I do?

Engineer: Increase the pressure by adjusting the comfort level to FIRM and wait a few minutes.

Otherwise adjust the firmness as per the patient’s weight.

You can set the comfort level to **1** if the patient’s weight is between **40-50 kgs.**

You can set the comfort level to **2** if the patient’s weight is between **50-60 kgs.**

You can set the comfort level to **3** if the patient’s weight is between **60-70 kgs.**

You can set the comfort level to **4** if the patient’s weight is between **70-85 kgs**.

You can set the comfort level to **5** if the patient’s weight is between **85-100 kgs**.

You can set the comfort level to **6** if the patient’s weight is between **100-115 kgs.**

You can set the comfort level to **7** if the patient’s weight is between **115-135 kgs.**

You can set the comfort level to **8** if the patient’s weight is above **135 kgs.**

Follow these steps for inspection:

- Check if the CPR valve is in the closed position.
- Check if the connection between air tubes to pump unit is tightly secured.
- Verify all mattress couplings are properly connected.
- If the mains supply is normal but there is no sound of the pump, please remove the connector from the pump to check if there's air comes out. If not, please turn off the machine and contact the dealer or engineer for further investigation.
- If all connections are fine, press the "Alarm Mute" button and recheck the system.

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86. What is the model of the pump unit?
UD211

87. What are the dimensions of the pump unit?
33 cm (W) × 13 cm (D) × 24 cm (H)

88. What is the weight of the pump unit?
3.5 kg

89. What are the alternate cycle times available?
10 / 15 / 20 / 25 / 30 minutes

90. What is the static time of the pump?
20 minutes

91. What is the auto-firm time of the pump?
20 minutes

92. What is the pump output flow rate?
Greater than 8 LPM (at 230 V)
(Note: The flow rate may vary due to voltage fluctuations)

93. What is the pressure range of the pump?
25 to 60 mmHg (±5)

94. What is the input voltage requirement?
AC 230 V / 50 Hz

95. What is the input current?
0.12 A max (@253 V~)

96. What is the fuse rating?
T1AL 250 VAC

97. What is the frequency of operation?
50 Hz

98. What is the degree of protection against electric shock?
Class II

99. What type of applied part classification is used?
Type BF

100. What is the warranty of the pump unit?
1 year

101. What is the Service Life of the pump unit?
5 years

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102. What is the model of the air mattress?
5-inch Mattress Oscillia

103. What are the dimensions of the mattress?
200 cm (L) × 85 cm (W) × 13 cm (H)

104. What is the weight of the mattress?
6 kg

105. What material is used for air cells?
Nylon-TPU

106. How many air cells does the mattress have?
16 cells

107. What is the cover material of the mattress?
Two-way stretch polyester

108. What material is used for the bottom layer of the mattress?
Polyester-PU

109. What is the standard maximum weight?
135 kg

110. What is the warranty of the air mattress?
1 year

111. What is the Service Life of the air mattress?
5 years

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112. What are the operating temperature conditions for the air mattress?
The device operates within a temperature range of **+5°C to +40°C**.

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113. What humidity range is suitable for operation of the Air mattress?
The acceptable humidity range is 15% to 90% relative humidity, non-condensing, but not requiring a water vapour partial pressure ≥ 50 hPa; and an atmospheric pressure range of 700 hPa to 1060 hPa.

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114. What are the transport and storage conditions?

The Air mattress should be stored within the following range:

- Temperature: **-25°C to 70°C**
- Humidity: **10% to 90% RH**

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115. What is the maximum altitude for safe operation of Air Mattress?
The device can operate up to an altitude of 3000 meters.

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116. What is the Degree of Protection against ingress?
IP21, which means the device is protected against small solid objects (like fingers) and light dripping water.

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117. What is the cable length of the mattress pump?
The power cable is approximately **5 meters long**.
