

Frequently Asked Questions (FAQs)

Air Mattress & Pump System

Oscillia 4-inch/5-inch Semi Digital Alternating Pressure Air Mattress System

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.

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.

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.

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.

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.

7. Where should the pump be placed?

The pump can be either **hung on the bed footboard** by its elastic hanger brackets or placed on a **flat, stable surface**. The elastic hanger brackets will self adjust onto the footboard tightly.

Ensure it is positioned in a way that allows proper airflow and easy access.

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.

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.

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 to use the Comfort Control knob?

The Comfort Control knob is used to adjust the air pressure level of the mattress.

- Turn the knob towards Firm to increase air pressure for heavier patients
- Turn it towards Soft to decrease air pressure for lighter patients

To check the correct pressure:

- Slide your hand between the deflated air cell and the patient's buttock area
 - There should be minimal contact
 - Always maintain at least 1 inch of space to prevent bottoming-out
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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.

14. Can the system run continuously?

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

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.

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.

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.

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**.

21. Can I open or repair the pump myself?

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

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

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

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.

25. How should air tubes be cleaned?

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

26. How often should maintenance be performed?

Regular inspection is recommended to ensure proper functioning and safety.

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.

30. How should the mattress be folded?

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

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 10 minutes. This is normal and the product will return to normal operation once the mains supply is resumed.

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

The mattress consists of **19/16 air cells that alternately inflate and deflate**, while **3 head cells remain static** to provide stable “pillow-like” support for enhanced comfort.

33. Which materials are used to manufacture the mattress?

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

34. 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.

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

The transport cap is used during patient transfer. For transportation, rotate the knob towards “Firm” and wait for 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.

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

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

38. 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 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.

39. 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.

40. 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.

41. 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.

42. 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 10 minutes. Press the Alarm Mute button to silence the alarm.

43. What is an L.P. Alarm? What should you do in this case?

L.P. stands for **Low Pressure** alarm. When abnormally low pressure occurs in the mattress section, the “Low Pressure” indicator will flash and beep. If the issue is not resolved and the fault condition continues, the alarm will resume.

If the pressure returns to normal, the low-pressure alarm will stop automatically.

If the problem persists, follow these steps to check the machine:

1. Ensure the CPR valve is set to the **CLOSE** position.
 2. Check that the hose connector is securely connected to the pump.
 3. Verify that all coupling connections on the air cells and manifolds are properly secured.
 4. Remove the hose connector from the pump and check if air is flowing out.
 5. If there is no air output, switch off the pump and contact the dealer or service agent.
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44. When does Service Alarm indicate?

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

45. 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.

46. 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.

47. 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.

48. 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.

49. 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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50. 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.

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

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

52. What cleaning products should be avoided?

Phenolic-based cleaning products should not be used.

53. What is the precaution regarding sunlight after cleaning?

The mattress should not be dried under direct sunlight.

54. 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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55. 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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56. 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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57. 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.

58. 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.

59. 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.

60. 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.

61. 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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62. 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.

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

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

64. 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.

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

Engineer: 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 **40-60 kgs**.

You can set the comfort level to **3** if the patient's weight is between **50-70 kgs**.

You can set the comfort level to **4** if the patient's weight is between **60-85 kgs**.

You can set the comfort level to **5** if the patient's weight is between **70-100 kgs**.

You can set the comfort level to **6** if the patient's weight is between **85-115 kgs**.

You can set the comfort level to **7** if the patient's weight is between **100-135 kgs**.

You can set the comfort level to **8** if the patient's weight is above **115 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.

66. What is the model of the pump unit?

7H211

67. What are the dimensions of the pump unit?

29 (W) x 10 (D) x 20 (H)

68. What is the weight of the pump unit?

2.8 kg

69. What are the alternate cycle times available?

10 / 15 / 20 minutes

70. What is the static time of the pump?

20 minutes

71. What is the pump output flow rate?

Greater than 6 LPM (at 230 V)

(Note: The flow rate may vary due to voltage fluctuations)

72. What is the output air pressure range of the pump?

25 to 60 mmHg (± 5)

73. What is the input voltage requirement?

AC 230 V / 50 Hz

74. What is the input current?

0.12 A max (@253 V~)

75. What is the fuse rating?

T1AL 250 VAC

76. What is the frequency of operation?

50 Hz (230V)

77. What is the degree of protection against electric shock?

Class II

78. What type of applied part classification is used?

Type BF

79. What is the warranty of the pump unit?

1 year

80. What is the Service Life of the pump unit?

5 years

81. What is the model of the semi digital air mattress?

4-inch Mattress /5-inch Mattress

82. What are the dimensions of the 4-inch mattress?

200 cm (L) \times 85 cm (W) \times 10 cm (H)

83. What are the dimensions of the 5-inch mattress?

200 cm (L) \times 85 cm (W) \times 13 cm (H)

84. What is the weight of the 4-inch mattress?

5 kg

85. What is the weight of the 5-inch mattress?

6 kg

86. What material is used for air cells?

Nylon-TPU

87. How many air cells does the 4-inch mattress have?

19 cells

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

16 cells

89. What is the cover material of the mattress?

Two-way stretch polyester

90. What material is used for the bottom layer of the mattress?

Polyester-PU

91. What is the standard maximum weight of the mattress?

135 kg

92. What is the warranty of the air mattress?

1 year

93. What is the Service Life of the air mattress?

5 years

94. What are the operating temperature conditions for the air mattress?

The device operates within a temperature range of +5°C to +40°C.

95. 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.

96. 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**

97. What is the maximum altitude for safe operation of Air Mattress?

The device can operate up to an altitude of 3000 meters.

98. 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.

99. What is the cable length of the mattress pump?

The power cable is approximately **5 meters long**.

100. Which regulatory safety standards does the air mattress pump comply with?

The device complies with the following standards:

- IEC 60601-1
 - IEC 60601-1-2
 - IEC 60601-1-11
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101. How to connect the hose connector to the pump unit?

Remove the Transport Cap of the hose connector and connect the hose connector to the pump unit. Firmly push the hose connector into position and a “click” sound will secure the connection.

102. What are the various buttons on the Control Panel Display?

The Control Panel Display includes the following buttons and indicators:

1. Indicator Signal Mute and Indicators
 - Low Pressure indicator (amber light)
 - Power Failure indicator (amber light)
 - Service/Malfunction indicator (amber light)
 2. Control Panel Lock-Out
 3. Mode Selection (Alternate/Static)
 4. Comfort Control
 5. Power (Operating) and Normal Pressure Indicator
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103. When to use the Alarm mute button?

Use the Alarm mute button to temporarily suspend the indicator signal. If the situation is not resolved and the fault condition persists, the indicator signal will resume to notify the caregiver.

104. What happens when pump is switched ON?

When you switch ON the pump, all LED indicators on the control panel will illuminate accompanied by an audible beep for 2 seconds (check for indicator failure if any). The pump will begin to inflate with the Normal Pressure indicator flashing to indicate inflation mode.

Rotate the Comfort Control knob towards “Firm”. The air mattress will be fully inflated within 60 minutes and will automatically enter the previous operating mode. If not, the Low Pressure indicator will illuminate. Adjust the air pressure setting according to the weight of the patient to achieve the most suitable level without “bottoming-out”. Users can determine the appropriate air pressure setting by adjusting the Comfort Level.

105. What should you do if the power failure alarm is beeping?

1. Check if the power cord is properly plugged into an outlet.
 2. Check if there is a power outage.
 3. Ensure that the power switch on the side panel is in the ON position.
 4. Press the alarm mute button, then switch the pump off.
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106. What should you do if the pump shows no indication of working?

1. Check if the plug is properly connected to the power supply.
 2. Ensure that the power switch is in the ON position.
 3. Check if the fuse has blown.
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