Vivo 45 LS
Quick Reference Guide for Lay Care Provider

VIVO
by Breas

⚠️ **This is not a complete guide for the Vivo 45 LS. See your manual for complete instructions.**

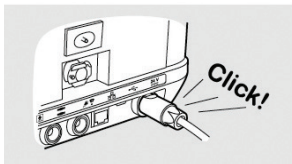## Setting Up and Powering on the Ventilator

- All users must be trained in the use of the Vivo 45 LS prior to operating the device.

- Before operating the ventilator, inspect the ventilator, power supply, power cord and accessories for any signs of damage. Do not use the device or accessories if damage is suspected.

- Do not use the ventilator while positioned in a warm place, such as in direct sunlight or close to a radiator as this may lead to a temperature outside of specifications.

Placing the Ventilator Before Use

Place the Vivo 45 LS on a solid flat surface. It should be placed lower than the patient. Make sure that nothing can block the patient air inlet. Make sure that nothing can block the cooling air inlet or outlet.

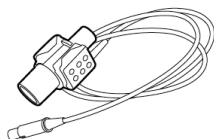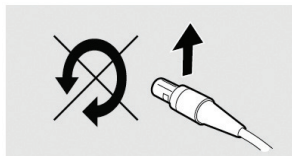### Connecting the Vivo 45 LS to Mains (AC Power Outlet)

1. Plug the power supply into the power inlet.

2. Make sure a clicking sound is heard to ensure the power supply is completely inserted.

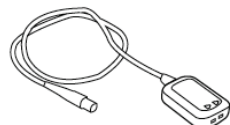3. Connect the power supply's power cord to the mains supply.

Click!

Connecting Accessories

Connecting and Disconnecting the Accessory Cables

1. Insert the cable in the appropriate port. (See Rear View)

2. Make sure to insert the connector with the marking pointing upwards.

3. Pull the connector sleeve, not the cable itself or the cable strain relief to release the connector.
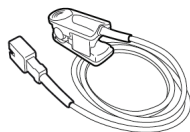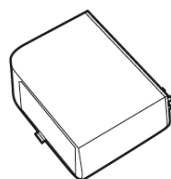
🟡 EtCO$_2$ sensor

⚪ Effort belt communications box

🔵 SpO$_2$ Connection interface

SpO2 finger clip sensor

Click-in battery

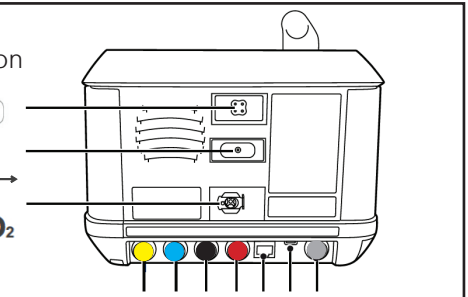## Rear View
Equipment Designation

Electrical connector for heated patient circuit

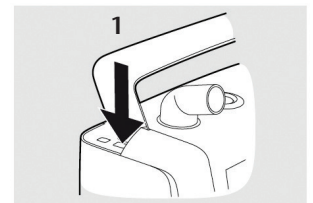Exhalation valve port

Connection for low pressure/bleed-in oxygen ⊖ **O₂**

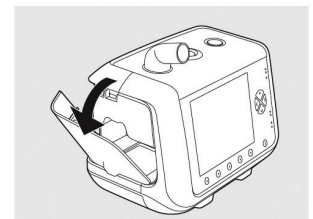| Item/ Symbol	Description	Color
CO2	CO$_2$ interface port	🟡
SP O2	SpO$_2$ interface port	🔵
	Remote start/stop, audio pause and effort belt interface port	⚫
	Remote alarm, nurse call interface port	🔴
12-24V 90W Max	Mains/ External DC inlet	⚪

Click-in Battery

The click-in battery is intended as a power source during transportation, or if the primary AC power source fails.
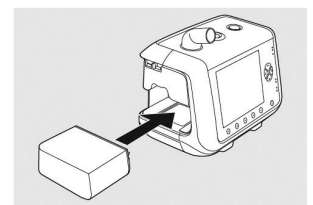
Installing the Click-in Battery

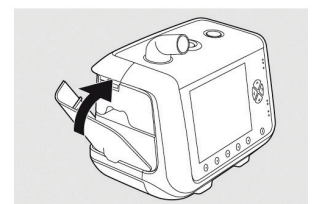1. Lift Handle and press button 1 to release the side cover.

2. Open and remove the side panel.

3. Insert the click-in battery. Make sure the latch at the bottom of the click-in compartment is engaged.
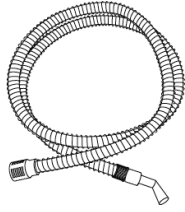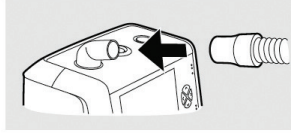
4. Close the side panel. Make sure there is a clicking sound to secure the side panel.
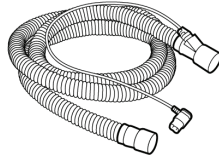
   When removing the battery, press down the latch at the bottom of the battery compartment and tilt the ventilator sideways.

Connecting the Patient Circuit

1. Inspect the circuit for damage.

2. Connect the patient circuit to the patient air outlet on the ventilator.
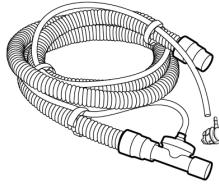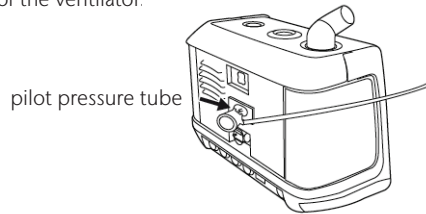

MPV circuit

Heated wire circuit

leakage port → interface

Leak circuit

Active exhalation valve circuit

3. If using an active exhalation valve patient circuit, connect the exhalation valve connector to the back of the ventilator.
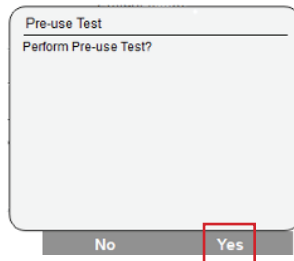
pilot pressure tube

⚠ **Caution:** Make sure the leakage port of the circuit is not blocked or obstructed. This port prevents rebreathing by flushing the exhaled air.
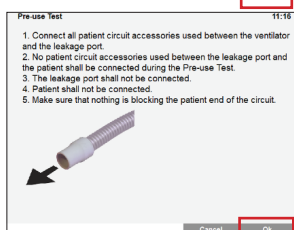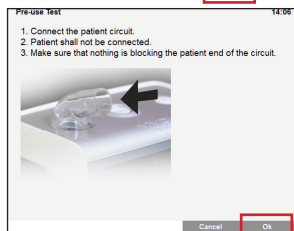
Performing the Pre-use Test

Always perform a pre-use test when connecting a new patient circuit.

1. Press the Start/ Stop ⏻ button on the top of the Vivo 45 LS.

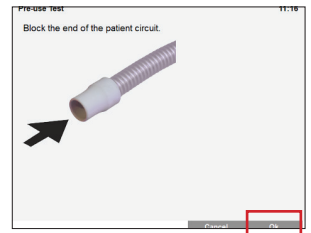2. If the Pre-use test prompt screen appears, select Yes.

   If you do not see the prompt, go to the "Others" menu and select "Pre-use Test>>"

3 The first step of the Pre-use Test will determine the circuit being used. Ensure circuit is connected and Press "OK". Verify correct circuit is detected and Press "Yes".
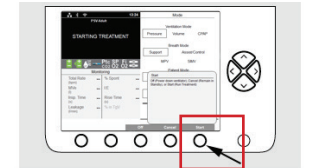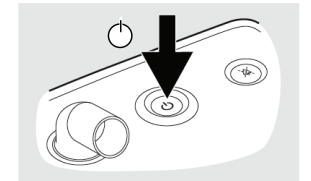

4. The next step is the circuit compliance test. Block the end of the patient circuit with your hand and press "OK"

5. The Pre-use Test result will be displayed. Press "OK" if pre-use test was completed successfully. Otherwise repeat the Pre-use Test.

Starting Treatment

1. Press the Start/Stop ⏻ button.

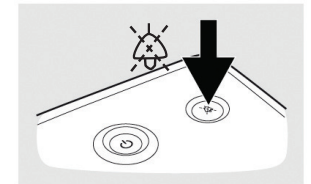2. Press the menu button indicating "Start".

Handling Alarms

⚠ **Audible Signal Pause and Reactivation**

The audible signal can be paused for 60 seconds by pressing the Audio Pause button.

The audible signal can be reactivated by pressing the Audio Pause button again.

If a new alarm condition occurs during the audio pause period, the audible signal will be reactivated.

Audible alarm level

Range/Performance: 1 to 5, where 1 is the lowest volume setting and 5 is the highest volume setting.

• Set the alarm sound level so that alarms can be clearly heard at a distance.

How to set audible alarm level

• Use the Navigation buttons to enter the "Others" menu

• Use the down button to enter the "Device Settings" menu

• Use the down button to select "Alarm Sound Level"

• Use left and right arrows to change alarm sound level to desired setting

## Monitoring

Power Source Indicators

The Source of the Power currently being used is indicated on the right side of the front panel. (See Front View). The lit LED next to the icons means the following power source is in use:
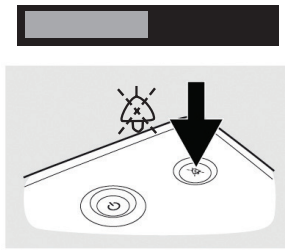
⏺	Click battery
⏺	Internal battery

Battery Status Symbols

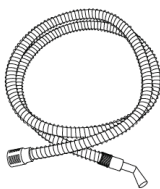|	
98%	State of charge (alternates with battery symbol)

Stopping Treatment

1. To stop treatment and enter standby mode, first press and hold the Start/Stop ⏻ button on the top.

2. Release the Start/Stop ⏻ button when the progress bar is filled.

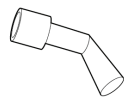3. Press "OK" or the Audio Pause Button to stop the treatment.

Mouthpiece Ventilation (MPV)

• Mouthpiece ventilation is intended for patients greater than 5 years of age who are able to initiate breaths with the mouthpiece circuit.

• MPV Mode shall be used with a mouthpiece interface only.

• Using MPV Mode will result in deactivation of some alarms and features normally active in other modes.

• When leaving MPV Mode, check the alarm settings and that the actual circuit connected matches the Patient Circuit Type setting

   When the back up rate is set to zero, the Apnea alarm can be used to detect that the patient is not triggering any breaths. For example, when the apnea alarm is set to 45 seconds, the alarm will sound when the patient has not triggered a breath in the last 45 seconds.
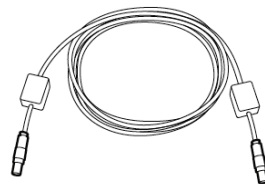
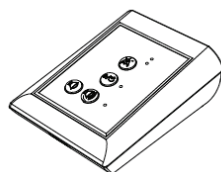MPV patient circuit   Mouthpiece

Using the Ventilator with the Remote Alarm

When installing a remote alarm system, check that it operates as intended before starting the treatment. The LED on the remote alarm is (Green) when the remote alarm unit is on. Before starting treatment, make sure this LED is on.

Supervising a Patient During Treatment:

• When a patient is treated there must be a supervising person present during the treatment.

• The supervising person needs to take care of alarms and conditions that the patient cannot solve on their own.

• Always have immediate access to an alternative means of ventilation which is ready for use.

• Failure to have an alternative means of ventilation can result in serious injury or patient death if the ventilator fails.
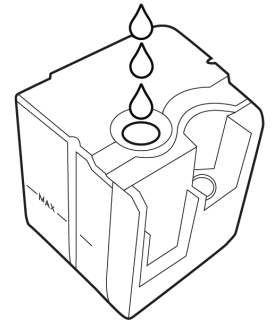
Cleaning and Maintenance

• Refer to section 7.2 of the User manual for instructions on cleaning and replacing patient air filters.

• Refer to section 7.2 of the User manual for instructions on cleaning and replacing cooling air filter.

Installing and Using the Click-In Humidifier and Heated Patient Circuit

• The click-in humidifier and the heated patient circuit operates on AC power source only. The click-in humidifier and the heated patient circuit do not operate on battery power. If the AC power source fails and the internal or click-in battery activates, the click-in humidifier and the heated patient circuit will be turned off automatically.

• During transportation of the ventilator, the click-in humidifier must be uninstalled. Transporting the ventilator with the humidifier installed may result in water spillage into the ventilator.
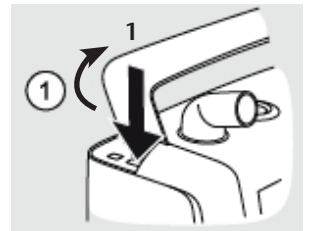
Filling the Click-in Humidifier

1. Fill water chamber with water through one of the airway connections. Do not fill above the Max indicator line (approx. 350 ml).
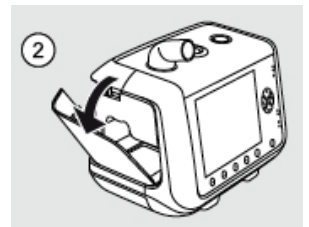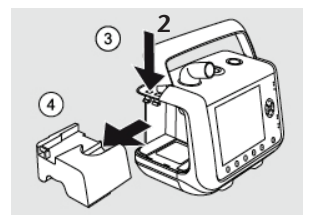
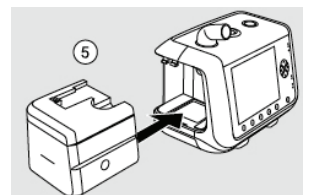### Installing the Click-in Humidifier

1. Lift handle. Press button **1**
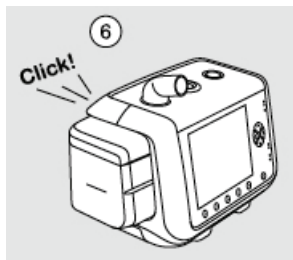
2. Open and remove side panel.

3. Press button **2** to release Air Bypass Unit.
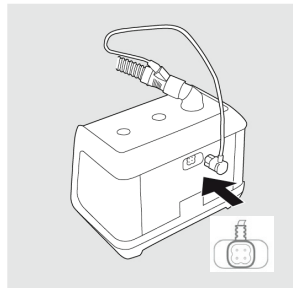
4. Slide out the Air Bypass Unit.

5. Insert filled humidifier.

6. Make sure there is a clicking sound to confirm correct installation.

Removing the Humidfier and Inserting the Air Bypass Insert

Press button **2** to remove humidfier.

7. If using a heated wire circuit, connect the heated wire electrical plug to the socket on the ventilator.

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