

1. **Brief history of Breas/Vivo 50:**
  - a. Leading ventilator manufacturer in Europe.
  - b. Over 15,000 ventilators on the market and been in US since late 2014.
  - c. Breas is 25 years old and manufactures product out of Sweden
2. **Ask some qualifying questions for physicians:**
  - a. What kinds of modes are mostly used on their patients and type of patients on ventilator?
3. **Features of the Vivo 50:**
  - a. **Portability:** Only 11 pounds, 14 pounds with external “Click-on” battery (will fit in protective case with or without), “Click-on” battery eliminates the need to carry 2 pieces of equipment.
  - b. **Flexibility**
    - i. Able to adapt to different types of circuits (i.e. Passive/Leakage or Active/Exhalation Valve) and non-proprietary circuits can be used that could provide cost effective value
  - c. **Battery life:** 4 hour internal battery and 8 hour external battery.
  - d. **Quietness:** Blower encased in zinc. Lower decibels=more comfort and better compliance.
  - e. **Ease of Use**
    - i. **Large color screen:** Intuitive, Self-Instructive. No sub-menus. Quick access to information
    - ii. **Distinct buttons:** 5 menu buttons on bottom and 4 navigation buttons on right
    - iii. **Navigation through menus:**
      1. Highlight or choose parameter “up and down.”
      2. Change highlighted parameter “left and right”
    - iv. **Intuitive user interface:** Self-instructive.
      1. Information button: Built in product manual. Reduces risks for mistakes. Easy to troubleshoot. May allow user to troubleshoot problem before calling for assistance.
  - f. **Advanced diagnostics:** Only vent that shows pressure, flow and volume.
    - i. **EtCO2\***
      1. “Plug and Play”, Mainstream CO2 sensor using Masimo technology. Will monitor end-tidal CO2 levels (Capnometry) as numerical real time values. Both end tidal CO2 and inspiratory CO2 levels displayed. So what? Reduces readmits for COPD patients. CO2 monitoring contributes to improved decision making and treatment adjustments. Allows the caregiver to be proactive in a patient’s care by potentially recognizing a decline in the patient’s status before it becomes acute.
      2. Gives ability to do continuous, monthly, or spot checks on EtCO2.
    - ii. **SpO2\***
      1. “Plug and Play”, using Nonin technology.
    - iii. **FiO2.\***
      1. Ability to measure and display oxygen % and can deliver up to 60% FiO2. Unit can bleed in up to 15l/m of O2.
  - g. **Target Volume**
    - i. Feature that automatically adjusts the delivered peak inspiratory pressure to ensure a consistent tidal volume delivery to the patient. It can be added to both PSV and PCV
    - ii. Differs from AVAPS (Trilogy)
      1. Responds faster to patient needs and is more accurate due to “Breath by Breath” response. Increases or decreases at 0.5 cmH2O per breath. Very similar to the pressure regulated volume control (PRVC) mode of ventilation.

## h. Monitor

- i. Main monitoring screen displays important information including FiO<sub>2</sub>, SpO<sub>2</sub> and pulse rate and End-tidal and Insp. CO<sub>2</sub>.
- ii. Pressure, Flow and Volume waveforms. Only device to display all 3 waveforms.
- iii. Trends Screen
  1. Up to 48 hours' worth of information at the touch of a button. Displays trended information including: Peak Pressure, PEEP, Spontaneous Rate, Total Rate, Tidal Volume, Leakage, EtCO<sub>2</sub> and SpO<sub>2</sub> (how well device is ventilating and oxygenating a patient.)
  2. Last 200 alarms, events or vent changes are displayed on unit with time/date stamped.
  3. 365 days' worth of internal storage on the device. No SD card needed to save the information. Quick downloads compared to Astral (download can take upwards of 30 minutes depending on amount of data)

## i. Home Adjust Mode:

- i. To enhance patient comfort and patient-ventilator synchrony, the Home Adjust mode allows the patient or caregiver to adjust multiple parameters within limits set by the physician or qualified caregiver. This can potentially improve patient compliance by allowing the patient to make changes to their settings when needed.

## j. Others:

### i. Ventilator performance

1. **Very accurate** with different leak measurements and breathing patterns due to "Pre-Use Test".
  2. **eSync**: Patented trigger technology that uses info from flow sensor to detect the start of effort from patient. Very sensitive to patient demands for an inspiratory breath and expiratory breath when asked for. eSync will cope with leaks by modifying the baseline for calculations on a breath by breath basis (increases patient comfort). This decreases the chance for auto-cycling to occur (increases patient comfort). Can compensate for leakage up to at least 85 lpm.
  3. **Sigh function**: sigh rate can be delivered every 50, 100, 150 and 200 breaths at 125%, 150%, 175% and 200% of set pressure or volume.
- ii. **3 profiles** (profiles can be labeled – increase patient understanding as to what settings they should be on)

## k. Low cost of ownership

- a. Preventative Maintenance for Vivo 50 is very cost effective due to favorable service intervals: 12 month, 3 year, 5 year and 20k hours for blower. Has modular design for easy and quick replacement of parts. 1 and 3 year PM could be done at the patient's bedside.

## l. Conclusion

- a. The VIVO 50 Ventilator is a **ROBUST** and **PORTABLE** ventilator. It is one of the **quietest** ventilators on the market today that is very **EASY to USE**. This could result in more patient comfort and improved compliance and outcomes. The **ADVANCED DIAGNOSTIC MONITORING** capabilities give the caregiver an excellent indication of oxygenation and the quality of ventilation. Finally, the **VIVO 50 SOFTWARE** provides additional analytical capabilities that could assist a physician in creating the most optimum treatment plan for their patient.

**\*Must be ordered. Does not come with the vent unless ordered.**