

Frequently Asked Questions

bellavista™ ventilators

Q: Is there a user manual integrated in the user interface of the bellavista ventilators?

A: Yes, during ventilation, you can access the operating instructions at any time directly from the main menu. You can also enter the manual via the context menu when selecting the desired parameters, e.g. in the cockpit.

Q: Is it possible to use imtmedical ventilators with other brands of tubing?

A: bellavista ICU ventilators are designed for maximum user-friendliness and therefore can be used with various tubing systems. For details please read the operating instructions.

Q: Who do I contact if I have technical questions about my bellavista ventilator?

A: **US:**

Email: support.vent.us@vyaire.com

Hotline: 800-231-2466

Europe, Middle East, Africa, LATAM:

Email: support.cc.eu@vyaire.com

Hotline: +49-931-4972-393

Asia Pacific, Japan, ANZ:

Email: gmb-apac-ventilation-support@vyaire.com

China:

Email: dl-cn-gcs@vyaire.com

Hotline: +86-400-878-8885

Q: Where can I find cleaning, disinfecting and sterilization recommendations for my bellavista ventilator?

A: This is published on the Vyairé international website: <https://www.vyaire.com/Covid-19>

Q: What is the intended use of the bellavista ventilator?

A: The bellavista ventilator was developed for ventilating adult and pediatric patients and, optionally, neonatal patients as of a tidal volume of ≥ 2 mL (*Neonatal option not available in all countries.*) The device is intended for use in clinics and institutional facilities where medically trained professionals are available for attending to the patient. The device can be used at the bedside, as well as for transferral within a facility, when a patient is in need of oxygen. bellavista is only intended for use by trained personnel under the supervision of a licensed doctor.

Q: [Can I extend bellavista ventilators with additional features?](#)

A: The bellavista ventilator family is the ideal hospital equipment because it has the advantage that you can extend the devices with additional features at any time. The desired options such as the Lung Recruitment Tool (*LRT*), the High Flow Oxygen Therapy (*HFOT*) or Transpulmonary Pressure Measurement can be easily uploaded to the ventilator via a USB.

Q: [Please tell me more about the Chameleon application.](#)

A: The Chameleon application allows you to operate bellavista in a similar way to other ventilators. Training effort can thus be reduced. The Chameleon application only supports SingleVent and has a freely adjustable apnea backup mode with the same functionality as the bellavista backup mode.

Q: [What does AVM stand for?](#)

A: Adaptive Ventilation Mode

Q: [What does AVM do?](#)

A: Automatically adapts to the demands of the patient – from mechanical ventilation to fully spontaneous pressure support weaning starts automatically and right from the beginning. Adaptive Ventilation Mode (AVM) is a "smart" ventilation mode that reduces the number of settings required, relieving the clinician's workload. By continuously measuring patient lung mechanics, AVM adapts to patient activity from one breath to the next, whether in mechanical or spontaneous ventilation, always calculating optimal breathing pattern and avoiding potentially detrimental situations, while maintaining safety backup ventilation at all times. AVM permits spontaneous breathing at any time. AVM determines the optimal ventilation pattern throughout the entire ventilation process, from intubation to extubation. Use AVM to ensure safe ventilation and rapid weaning for your patients.

Q: [How does AVM work?](#)

- A:**
- Ventilation begins with three pressure-controlled breaths in order to determine lung mechanics. The ventilation parameters are defined on the basis of the patient's ideal body weight (IBW).
 - In the following, pressure-controlled breaths are delivered at a rate determined by the Otis formula. The breaths are regulated for a target volume in order to reach the minute volume selected by the user. The patient's dead space is compensated for with 2.2 mL / kg / IBW.
 - Automatic adaptation of tidal volume and respiratory rate to the patient's respiratory mechanics is restricted by lung protection rules.
 - Pressure-supported spontaneous breathing is possible for the patient at any time.

Q: [Is AVM available for non-invasive ventilation?](#)

A: AVM is intended for invasive ventilation of adults and paediatric patients (≥ 6 kg). An AVM curve object is available for the specific monitoring of AVM.

Q: Does bellavista offer High Flow Oxygen Therapy (HFOT) as an option?

A: Yes. High Flow Oxygen Therapy (HFOT) combined with active humidification can effectively improve oxygenation and enhance patient comfort. This is achieved by high flow rates, which builds up positive pressure in the nasopharyngeal space. Unlike conventional non-invasive forms of ventilation, patients are able to drink, eat and speak during HFOT. Thanks to the continual flushing of the nasopharyngeal area, the anatomic dead space is reduced, improving the removal of CO₂.

Q: What is the Lung Recruitment Tool?

A: The avoidance of Ventilator-Induced Lung Injury (VILI) is one of the most important tasks during invasive ventilation. The assessment as to whether the lung of a ventilated patient is recruitable, and thus also the determination of the optimal PEEP, is a very challenging task – unless one has a tool providing the relevant information.

The bellavista Lung Recruitment Tool (LRT) is an automated procedure that gives the clinician everything needed to assess lung recruitment in a simple, reliable, and reproducible way – from determining if the lung is recruitable, to re-opening collapsed areas of the lung.

Q: Can I undertake esophageal pressure monitoring with bellavista?

A: Yes. Esophageal pressure monitoring is important for preventing VILI and determining the correct lung-protective ventilation strategy. Monitoring transpulmonary pressure enables clinicians to analyze pressures in the patient's lung more precisely for optimizing PEEP settings. When using bellavista, the exclusive AnimatedLung display graphically depicts transpulmonary pressure.

Q: How do I order esophageal pressure monitoring software for the bellavista?

A: Ask your bellavista account manager about part number **305.031.000**.

Q: What consumables do I need to undertake esophageal pressure monitoring?

A: Esophageal Balloon Probe Set (1 pack = 10 pc) - part number **305.490.000**.
Includes: Balloon tipped catheter with pressure lines, syringe, 3-way stopcock.

Q: What happens when I connect a balloon probe set to the Paux interface?

A: The Paux interface on bellavista can display an additional auxiliary pressure for several purposes and also allows esophageal/transpulmonary pressure measurement and calculations with an e.g. air filled balloon catheter (Balloon Probe Set, 305.490.000). When a balloon probe is connected at the Paux interface (see chapter "Description of the device") Paux/Pes values, curves and loops are displayed. For a detailed description of the parameters see operating manual chapters "Curves and Loops" and "Monitoring parameters"

Q: What is auto.sync?

A: The auto.sync feature relieves the patient of a fixed manual expiration setting and optimizes each patient's synchronization during spontaneous breathing. Sophisticated algorithms with input gathered via high-frequency sampling ensure a gentle transition between inspiration and expiration.

Q: [What is auto.rise?](#)

A: auto.rise adapts and optimizes the pressure rise time by continuous analysis of each breath, while at the same time avoiding pressure overshoots which can occur as a result of inadequate rise time settings. This useful tool relieves clinicians of the task of continually searching for the optimal rise time.

Q: [What is auto.leak?](#)

A: Our fully automatic adaptive leakage compensation system reliably compensates for inspiratory and expiratory leakages up to 120 L/min. Because of this, auto.leak as well as bellavista's sensitive trigger performance combine to improve patient synchronization with the ventilator.

Q: [What is AnimatedLung?](#)

A: AnimatedLung is a dynamic tool that visualizes the mechanical state of the patient's lung at a glance. This simple-yet-sophisticated visual enables the clinician to immediately detect changes in lung compliance and resistance as well as the patient's spontaneous activity.

Q: [What is VentSummary?](#)

A: VentSummary shows the most important respiratory weaning parameters, such as spontaneous respiration, PEEP and ventilation pressure. Clinicians can easily define the limits individually on the basis of the medical center's weaning protocol. Once the patient is within the desired parameters, bellavista's VentSummary displays the amount of time the patient meets the weaning criteria.

Q: [Does bellavista offer a Pressure Regulated Volume Control \(PRVC\) mode?](#)

A: Yes. The TargetVent software option dedicated to pressure regulated-volume controlled ventilation (*PRVC, target volume*). It allows PRVC with invasive and non-invasive ventilation.

Q: [How does TargetVent operate?](#)

A: In this beMode the inspiratory pressure P_{Insp} is automatically adjusted from breath to breath in such a way that an adjustable target tidal volume $V_{ttarget}$ is reached. In the literature this mode is termed Pressure Regulated Volume Controlled (PRVC) ventilation. TargetVent determines dynamic compliance C_{Dyn} for each breath and sets the pressure support for the next breath according to the selected target volume $V_{ttarget}$. Control range: $P_{Insp Min} \leq P_{Insp} \leq P_{Insp Max}$

Q: [Can I use the bellavista in the MRI?](#)

A: Do not use bellavista in the MR environment.

Q: [Is battery operation possible?](#)

A: bellavista 1000 can be operated in battery mode for at least 4 hours. The ventilation settings will have a significant impact on battery life. Battery operation is monitored by several alarms.

Q: Is there a battery indicator?

A: Display the battery indicator by clicking on the top of the screen. The white dot on the right prevents the display from disappearing after a short period.

Q: Can I optimize battery time?

A: No. bellavista ventilators all have a battery that works reliably for several hours without power and is designed to maintain this high level of performance over the long term.

Q: Is it necessary to empty the battery in between completely to maintain the high performance?

A: Always charge the batteries fully before running bellavista from the battery or if bellavista has not been used for any lengthy period.

Battery monitoring is fully automated. Keeping bellavista connected to the mains all the time has no negative effect on battery time.

Minimum charge: the optimum state of charge during lengthy periods of non-use is 40%. Charge for 4 hours every 6 months. The battery will also charge when bellavista is not switched on.

Q: Is there an alternative to the standard air inlet filter?

A: Yes. An optional filter protects the patient air inlet of bellavista against external contamination. It is fitted instead of the standard inlet filter. Two different filter types are available. See also the relevant set of instructions **302.505.000**. **302.303.000** Inlet filter HEPA H14.

Q: Where do I find the controls when switching to a low pressure oxygen supply?

A: For configuration of O₂ supply <1.5 bar or O₂ supply <100 % O₂ see Configuration Assist.

Q: Is the pneumatic nebulizer volume compensated?

A: The volume effects of nebulization are compensated for in ventilation. During inspiration, nebulization is only enabled at an inspiratory flow of ≥ 9 L/min. This ensures that the aerosol can reach the bronchi whilst at the same time the effect of additional nebulization flow (8 L/min) on tidal volume and oxygen concentration remains minimal.

Q: Is capnography available with bellavista?

A: The CO₂ respiratory gas sensor is available as an option and it allows you to measure the CO₂ concentration of respiratory air in the patient breathing circuit. Once the sensor is plugged into the right-hand side of the device the following additional functions are available:

- CO₂ curve display
- inCO₂ and etCO₂ and volumetric monitoring values
- Alarms: inCO₂, upper limit and etCO₂, upper/lower limit

Q: What benefit does the sidestream capnography offer?

A: Compared to the mainstream sensor, the sidestream capnography sensor has the advantage of a smaller dead space. A small amount of gas is discharged to the sensor via the measuring line. Consequently, the response time is slightly delayed.

Q: Can pulse oximetry be measured?

A: The Soft Sensor pulse oximeter and the flexible sensors for neonates are available as an option and they allow you to measure the oxygen saturation of arterial blood. Once the pulse oximeter is plugged into the right-hand side of the device the following additional functions are available:

- Cardio Pleth curve display
- SpO₂ and pulse monitoring value
- Alarm: SpO₂, lower limit and upper/lower pulse rate

Q: What is SingleVent?

A: bellavista includes the beModes concept for special tasks. SingleVent is the simplest beMode and it corresponds to ventilation with a conventional ventilator with one ventilation mode, settings and monitoring. Controls the most common ventilation modes that are available in bellavista.

Q: Is Apnea backup available?

A: Apnea backup can be switched on for any beMode. After an adjustable apnea time without ventilation, an alarm is triggered and the backup ventilation settings are automatically applied until manual intervention. Touch "Backup Ventilation" to make the settings.

Q: Can I enter different settings for Day/Night?

A: Yes, using Day/Night. Set two ventilation modes, volume and screen brightness separately from one another. bellavista switches to and from on a timed basis (*or manually on request*) between Day (*settings for the day*) and Night (*settings for the night*). Day/Night is used with patients who require ventilation support that is different at night from during the day. To disable the timer the night (*or day*) can be set to zero. Then it is only possible to switchover manually.

Q: What is DualVent?

A: Depending on the patient's breathing effort it is possible to select either of two set modes.

- **DualVent A:** the patient is breathing spontaneously. Modes with spontaneous breathing are available for selection. If no breath is triggered for an adjustable apnea time, bellavista automatically switches over to DualVent B. Then no alarm is triggered.
- **DualVent B:** the patient does not have adequate spontaneous breathing and requires mandatory ventilation. If the patient triggers an adjustable number of breaths in succession, bellavista automatically switches over to DualVent A.

Q: What is MaskFit?

A: Assists customisation of the ventilation Interface by making it possible to optimise the most important settings in a simple manner. Patient alarms are suppressed so that the patient and nursing staff are assured of an initial ventilation phase that is as trouble-free as possible.

- The most important settings can be optimised with large controls.
- bellavista provides not only visual feedback but also audible feedback so that breathing with a mask can be learned.

Q: How does Automatic Tube Compensation (ATC) work?

A: ATC compensates for tube resistance by increasing ventilation pressure in the breathing circuit during inspiration on a flow-dependent basis, or reducing it during expiration. The calculated PTrach ATC curve is superimposed on the pressure curve. The calculated endotracheal pressure PTrach ATC is displayed as a dotted line in addition to the pressure curve. However, all the monitoring parameters continue to be derived from the airway pressure measured internally.

Q: What is Pressure Limited Ventilation (PLV)?

A: PLV is automatically enabled with volume-controlled breaths. As soon as the inspiratory pressure rises to 5 mbar below the set PPeak alarm, the pressure is kept at that level until the set tidal volume has been reached, but until the end of the set inspiratory time at the latest. Plateau time is shortened as far as necessary. A blue info message is displayed when enabled with PLV. If the set tidal volume cannot be reached, an appropriate alarm message appears.

Q: What is Burst backup?

A: When the set apnea time has elapsed, a sequence of mandatory breaths is administered. The following settings are used:

- Burst backup = number of mandatory breaths/Off
- PInsp Man (*FlowMan*)

After a burst backup the device switches back to nCPAP.

Q: Are lung recruitment tools available?

A: Yes, in Lung Recruitment Tool (*LRT*). The lung recruitment manoeuvre inflates the lungs temporarily, the aim being to open alveoli that have collapsed. Separate settings are available for recruitment and assessment manoeuvres. The assessment manoeuvre begins with expiration at PStart. After that, pressure is increased to PMax. Afterwards the pressure is slowly or quickly reduced to PEnd. The recruitment manoeuvre begins with expiration at PStart. After that, pressure is increased to PMax. After an optional recruitment pause the pressure is slowly or quickly reduced to PEEPEnd. After that, ventilation continues with PEEPEnd as the new PEEP.

Q: [When is Lung Recruitment Tool \(LRT\) available?](#)

A: The lung recruitment and measuring manoeuvre is available:

- for adult and paediatric patients.
- for breathing circuits with a flow sensor (*types D and E*).
- for invasive ventilation.
- when the lung recruitment option is enabled.
- in all ventilation modes apart from CPAP, PSV and S
- only in beMode SingleVent.

Q: [When is Lung Recruitment Tool \(LRT\) temporarily not available?](#)

- A:**
- within ≤ 1 min after the last manoeuvre.
 - if the leak is above the set alarm limit.
 - if alarms are enabled.
 - if ventilation has not already been started.
 - if the patient type selected was "Neonatal".
 - if non-invasive ventilation (NIV) has been selected.
 - if a spontaneous breathing mode has been selected.
 - if the breathing circuit selected is not type D or E.
 - if the patient is breathing spontaneously (*% Spont > 10%*).

Q: [What trending data is available?](#)

- A:**
- The Trending screen displays the course of the monitoring parameters for each breath (*up to 1 year previously*).
 - The Real-time Trending screen displays curves (*up to 2 weeks previously*).

Q: [Who do I contact for accessories, consumables or spare parts?](#)

A: For information about bellavista accessories, consumables or spare parts contact your local dealer.

Q: [What is the intended use of the EasyLung Neonatal?](#)

A: The EasyLung Neonatal is a test lung designed for neonatal ventilators. It can simulate lungs of premature babies, neonates or toddlers, which require small and precise tidal volume.

Q: [Can test lungs from imtmedical simulate altered patient conditions?](#)

A: Yes. The SmartLung 2000, the SmartLung Adult and the SmartLung Infant are suitable for simulating various patient conditions. Because of the ability to change compliance and resistance, these test lungs are the optimal means for advanced inspections for your anaesthesia machines and respirators. In addition, it is possible to simulate a leak without an additional adapter.

Q: What is the use of a test lung?

A: With imtmedical test lungs, the functions and precision of your ventilator or anesthesia machine can be tested easily and cost-effectively before each use or also during service and maintenance.

Q: What is the intended use of the SmartLung 2000?

A: The SmartLung 2000 is ideal for a quick and cheap check-up of your lung ventilator or anesthesia device. The resistance and compliance can easily be set with a robust slider. A simulation of leaks in the system can be imitated as well.

Q: What is the «connection assist» of the bellavista ventilator?

A: By pressing the Info-Buttons on the right or left side of the bellavista ventilator, you will get to an information screen, which explains the correct connection of the available tubing systems. This will help to ensure that you are using the tubing system correctly, avoiding alarms and operating errors.

Q: Do you offer a dedicated neonatal ventilator?

A: The bellavista 1000 neo enables volume-controlled ventilation from 2 mL tidal volume, as well as unique, noninvasive forms of ventilation for the most sensitive and vulnerable of patients.

Q: What modes are available for neonates?

A: The ventilation of neonates* and infants as of ≥ 2 mL tidal volume is possible with bellavista neo, and optionally also with bellavista 1000 and bellavista 1000 e. Invasive, pressure-controlled and pressure-supported ventilation as well as TargetVent (*target volume*) are available. For non-invasive ventilation, modes such as nCPAP, nIPPV and HFOT are available.

* Not available in the USA

Q: Can iVista run on Apple branded laptops?

A: No currently. iVista is currently designed for Windows.

Q: Where can I download iVista?

A: iVista can be downloaded at www.ivista.ch

Q: What are the advantages of volume-controlled, pressure-regulated ventilation (TargetVent) for neonates?

A: In comparison with other ventilation modes, this form of ventilation is lung-protective and thus can avoid respiratory problems. TargetVent can be used both invasively and non-invasively.

Q: Is it possible to ventilate children and premature babies with other bellavista ventilators beside the bellavista neo?

A: Yes. Ventilators of the bellavista family can be equipped with additional options. For example, it is possible to purchase the Neonatal Suite for the bellavista 1000 and 1000e.

Q: What ventilation options do the bellavista ventilators offer especially for neonates?

A: bellavista neo or bellavista ventilators equipped with the Neonatal Option offer nIPPV (*nasal intermittent, positive pressure ventilation*) and nCPAP (*nasal CPAP*). These nasal modes offer numerous benefits, such as breath detection, apnea detection, and burst backup, which help you easily support breathing during apnea phases. The High Flow Oxygen Therapy (*HFOT*) also has a wide range of adjustments so you can always find the optimal setting for your patient. With the ramp function, you can accustom infants to the therapy comfortably and easily. TargetVent is also an integral part of the Neonatal Option.

Q: What are mood buttons?

A: Mood buttons are animal figures on the display of the bellavista neo ventilator. These buttons help the relatives of ventilated premature babies and children perceive our ventilator friendlier in a clinical setting.

Q: Can I use the pneumatic nebulizer for neonates?

A: Pneumatic nebulization is not available for neonates.

Q: What can I do if my ICU ventilator stops working?

A: You will find explanations for possible sources of error in the operating manual or in the maintenance book for your bellavista respirator. If this does not help you, please contact our technical support team:

US:

Email: support.vent.us@vyaire.com

Hotline: 800-231-2466

Europe, Middle East, Africa, LATAM:

Email: support.cc.eu@vyaire.com

Hotline: +49-931-4972-393

Asia Pacific, Japan, ANZ:

Email: gmb-apac-ventilation-support@vyaire.com

China:

Email: dl-cn-gcs@vyaire.com

Hotline: +86-400-878-8885

Q: I have not found an answer to my question. Who can I contact now?

A: If you were unable to clarify your concern with the FAQs, the operating instructions or the maintenance book, please contact our technical support team:

US:

Email: support.vent.us@vyaire.com

Hotline: 800-231-2466

Europe, Middle East, Africa, LATAM:

Email: support.cc.eu@vyaire.com

Hotline: +49-931-4972-393

Asia Pacific, Japan, ANZ:

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