



# bellavista™ 1000e

Intensive care ventilator

TECHNICAL SPECIFICATIONS

 **vyaire**<sup>TM</sup>  
MEDICAL

# bellavista™ 1000e

## Intensive care ventilator

The bellavista intensive care respirator offers state of the art technology and an innovative user interface. It is universally applicable from neonatal to adult ventilation and supports you in your daily challenges in the ICU, intermediate care and institutional care environments, regardless if you need to ventilate invasive or non-invasive. The full HD crystal clear 17" glass touchscreen gives you full overview all the time. A powerful turbine blower drive and the compact design of bellavista and the battery life of minimum 3 hours expands your reach and allows you to use bellavista for intra hospital transportation. Our individually configurable software lets you decide how you want to use bellavista, giving you a practical and unique added value.

## Area of application

Intensive Care Unit (ICU)

Intermediate Care (IMC)

Emergency Room (ER)

Intra-Hospital Transfer

## Required space



## Ventilation features and options

AVM	Adaptive Ventilation mode for faster weaning and adaptation to the patient.
Lung Recruitment Tool	The bellavista Lung Recruitment Tool is an automatic maneuver that determines recruitability and subsequent recruitment of the lung in a reliable, reproducible and easy way. You can save and export up to 50 maneuver screenshots.
Esophageal Pressure Monitoring	Optimize your lung protective strategy with dynamic transpulmonary and transalveolar pressure monitoring.
HFOT	High Flow Oxygen Therapy for adults, pediatric and neonatal patients with up to 80L/min and ramp function for a better flow adaptation.
Volumetric capnography	Quantitative measurement of CO <sub>2</sub> and dynamic deadspace monitoring with the bellavista mainstream capnography.
Settings Assist	Graphical display of mode settings for better overview and forecast of dependencies of e.g. time, cycle and I:E ratio.
Profile settings	Up to 20 individually configured patient profiles can be stored in bellavista.
AnimatedLung	Display of compliance, resistance and spontaneous breathing as a graphical realtime display.
VentSummary	Display of various ventilation parameters, to identify the weaning status of the patient.
Mask Fit	Adapting patients to non-invasive Ventilation with help of visual and acoustic guidance.
auto.sync	Free the patient from a fixed trigger setting with AutoSync and improve synchrony.
auto.rise	Automatic adaption of rise time with a breath by breath analysis.
auto.leak	Adaptive in- and expiratory leakage compensation.
nasal CPAP	Experience highly advanced nCPAP with apnea and respiratory rate detection. Choose between two nCPAP generators (Infant Flow LP <sup>®</sup> , Medijet <sup>®</sup> ).
Burst backup	nCPAP backup feature for more safety in neonatal nasal CPAP ventilation.
Neo NIV	Spontaneous modes for mask use with full leakage compensation and disconnection detection.
Night Mode	Configure your own night setting and dim alarm lights, screen brightness and alarm sound volume independently.
Circuits	Dual and single limb operation.
Parameter trending	bellavista enables you to store all trending parameters up to one year.
Real time trending	Real time data is recorded for 14 days.



Modes of Ventilation	Description	Invasive	Non-Invasive	Adult/ Pediatric	Neonatal*
<b>Adaptive mode</b>					
AVM	Adaptive Ventilation Mode	✓	–	✓	–
<b>Pressure controlled</b>					
P-A/C	Pressure Assist Control Ventilation	✓	✓	✓	✓
PCV	Pressure Contol Ventilation	✓	✓	✓	✓
PC-SIMV	Pressure Controlled-Synchronized Intermittent Mandatory Ventilation	✓	✓	✓	✓
beLevel	Biphasic Ventilation	✓	✓	✓	–
APRV	Airway Pressure Release Ventilation	✓	✓	✓	–
CPAP	Continuous Positive Airway Pressure	✓	✓	✓	✓
PSV	Pressure support Ventilation	✓	✓	✓	✓
S	Spontaneous	✓	✓	✓	✓
S/T	Spontaneous /Timed	✓	✓	✓	✓
T	Timed	✓	✓	✓	✓
<b>Volume controlled</b>					
V-A/C	Volume Assist Control Ventilation	✓	–	✓	–
VCV	Volume Control Ventilation	✓	–	✓	–
VC-SIMV	Volume Controlled – Synchronized Intermittent Mandatory Ventilation	✓	–	✓	–
PLV	Pressure Limited Ventilation	✓	–	✓	–
<b>Volume target</b>					
PSV <sub>Target</sub>	Pressure support Ventilation with Target Volume	✓	✓	✓	✓
P-A/C <sub>Target</sub>	Pressure Assist Control Ventilation with Target Volume	✓	✓	✓	✓
PC-SIMV <sub>Target</sub>	Pressure Controlled – Synchronized Intermittent Mandatory Ventilation with Target Volume	✓	✓	✓	✓
S <sub>Target</sub>	Spontaneous with Target Volume	✓	✓	✓	✓
S/T <sub>Target</sub>	Spontaneous Timed with Target Volume	✓	✓	✓	✓
T <sub>Target</sub>	Timed with Target Volume	✓	✓	✓	✓
<b>Non-invasive, nasal</b>					
nCPAP	nasal Continuous Positive Airway Pressure (Flow)	–	✓	–	✓
nCPAP	nasal Continuous Positive Airway Pressure (Pressure)	–	✓	–	✓
nIPPV	Nasal Intermittent Positive Pressure Ventilation	–	✓	–	✓
<b>Oxygen therapy</b>					
HFOT	High Flow Oxygen Therapy	–	✓	✓	✓
<b>beMode</b>					
DualVent	Automatic switching between two modes	✓	✓	✓	✓
DayNight	Automatic Day/Night switching of two modes	✓	✓	✓	–

Features	Adult/Pediatric	Neonatal*
Peak inspiratory flow	260 L/min	40 L/min
Apnea Ventilation Modes	P-A/C, PC-SIMV, V-A/C, VC-SIMV, PCV, VCV, S/T, T	P-A/C, PC-SIMV, nIPPV, PCV, S/T, T
Backup Modes	PSV	PSV, Burst backup (nCPAP)
Flow pattern	Square, Decelerating 50 %, Decelerating	Decelerating
Inspiratory trigger	Pressure, Flow, Off	Pressure, Flow, Off
Expiratory trigger	Manual, auto.sync	Manual
Rise time	Manual, auto.rise	Manual, auto.rise
Leakage compensation, auto.leak	✓	✓
Volumetric Mainstream Capnography <sup>2</sup>	✓	–
Sidestream Capnography <sup>2</sup>	✓	✓
SpO <sub>2</sub> Plethysmography <sup>1</sup>	✓	✓
ATC (Automatic Tube Compensation)	✓	–
Screenshot function	✓	✓
Touchscreen lock	✓	✓
O <sub>2</sub> suction maneuver	✓	✓
Oxygen Flush	✓	✓
Expiration valve, reusable	✓	✓
Expiration valve, single-patient	✓	✓
Integrated manual	✓	✓
Integrated instruction videos	✓	✓
Timer function	✓	✓
Stopwatch	✓	✓
Chameleon Modes	✓	✓
Tests		
Automatic system test during startup	✓	✓
Circuit test	✓	✓
CO <sub>2</sub> sensor calibration	✓	✓
Oxygen sensor calibration	✓	✓

Features	Adult/Pediatric	Neonatal*
<b>Curves</b>		
Pressure airway	✓	✓
Flow	✓	✓
Volume	✓	✓
SpO <sub>2</sub>	✓	✓
etCO <sub>2</sub>	✓	✓
P <sub>Aux</sub>	✓	✓
P <sub>es</sub>	○	○
P <sub>TP</sub>	○	○
P <sub>TA</sub>	○	○
ATC	✓	—
<b>Loops</b>		
Pressure/Volume	✓	✓
Pressure/Flow	✓	✓
Flow/Volume	✓	✓
P <sub>es</sub> /Volume	○	○
P <sub>TP</sub> /Volume	○	○
P <sub>TA</sub> /Volume	○	○
Reference Loops	✓	✓
Loop overlay	✓	✓
Volumetric CO <sub>2</sub>	✓	—
<b>Trending</b>		
Parameter trending	✓	✓
Realtime trending	✓	✓
<b>Maneuvers</b>		
Manual breath	✓	✓
Sigh	✓	—
Inspiratory Hold	✓	✓
Expiratory Hold	✓	✓
NIF (Negative Inspiratory Force)	✓	✓
V <sub>trapped</sub>	✓	✓
P <sub>0.1</sub> (Occlusion pressure)	✓	✓
AutoPEEP	✓	✓
Lung Recruitment Tool	✓	—
Transpulmonary pressure	○	○

Features	Adult/Pediatric	Neonatal*
<b>Graphics</b>		
AnimatedLung	✓	—
VentSummary	✓	—
AVM TargetView	✓	—
MaskFit	✓	—
TargetVent View	✓	✓
<b>Alarms</b>		
Vt/Vt <sub>Insp</sub> /Vt <sub>Exp</sub>	✓	✓
MV/MV <sub>Insp</sub> /MV <sub>Exp</sub>	✓	✓
P <sub>Peak</sub>	✓	✓
Rate	✓	✓
FiO <sub>2</sub>	✓	✓
Pulse	✓	✓
SpO <sub>2</sub>	✓	✓
inCO <sub>2</sub>	✓	✓
etCO <sub>2</sub>	✓	✓
Apnea	✓	✓
Leak %	✓	—
Autoset	✓	✓
Autoset Leakage	—	✓
<b>Patient circuit type</b>		
Single Limb	✓	✓
Dual Limb	✓	✓
<b>Integrated pneumatic nebulizer</b>		
Phase, flow compensated	Inspiration, Expiration, Continuous	—
Duration	5 – 60 min and ∞	—
<b>Mesh Nebulizer Aeroneb®</b>		
Phase	Continuous	Continuous
Duration	30 min and 6 h	30 min and 6 h

General Settings	Adult	Pediatric	Neonatal*
P <sub>Insp</sub> , P <sub>High</sub> , IPAP	2 – 100 mbar	2 – 60 mbar	2 – 60 mbar
P <sub>Support</sub>	0 – 100 mbar	0 – 60 mbar	2 – 60 mbar
CPAP	4 – 30 mbar	4 – 30 mbar	4 – 30 mbar
PEEP, EPAP	0 – 50 mbar	0 – 50 mbar	0 – 30 mbar
Pressure trigger	0.1 – 15 mbar	0.1 – 15 mbar	0.1 – 15 mbar
Flow trigger	0.1 – 20 L/min	0.1 – 20 L/min	0.1 – 20 L/min
Expiration trigger	5 – 90 %, auto.sync	5 – 90 %, auto.sync	5 – 90 %
Oxygen	21 – 100 %	21 – 100 %	21 – 100 %
Rate	1 – 50 breaths/min	1 – 100 breaths/min	1 – 150 breaths/min
Rate <sub>Backup</sub>	5 – 50 breaths/min, Off	5 – 100 breaths/min, Off	10 – 100 breaths/min, Off
Rise time	0 – 2000 ms, auto.rise	0 – 2000 ms, auto.rise	0 – 400 ms, auto.rise
Plateau	0 – 70 % of T <sub>Cycl</sub>	0 – 70 % of T <sub>Cycl</sub>	–
Ramp	5 – 45 min, Off	5 – 45 min, Off	–
T <sub>Insp</sub> , I – time	0.1 – 10 s	0.1 – 10 s	0.1 – 2 s
T <sub>Insp Max</sub> , I – time <sub>Max</sub>	0.5 – 3 s	0.3 – 3 s	0.3 – 2 s
T <sub>High</sub>	0.1 – 59.8 s	0.1 – 59.8 s	–
T <sub>Low</sub>	0.2 – 10 s	0.2 – 10 s	–
Vt <sub>Insp</sub> /VtTarget	250 – 2500 mL	40 – 500 mL	2 – 250 mL
AVM			
%MinVol	25 – 350 %	25 – 350 %	–
Height	145 – 250 cm	50 – 171 cm	–
IBW	39 – 138 kg	6 – 63 kg	–
Vt <sub>Target</sub>	250 – 2500 mL	40 – 500 mL	–
P <sub>Limit</sub>	5 – 95 mbar	5 – 60 mbar	–
nCPAP/nIPPV			
Flow nCPAP	–	–	2 – 18 L/min
Pressure nCPAP	–	–	0 – 20 mbar
Burst <sub>Backup</sub>	–	–	1 – 5 breaths/Off
PEEP	–	–	0 – 20 mbar
P <sub>Insp</sub>	–	–	0 – 30 mbar
T <sub>Insp Man</sub>	–	–	0.1 – 3 s
Tinsp	–	–	0.1 – 3 s
Rate	–	–	6 – 200 breaths/min
Rise Time	–	–	0 – 400 ms
Interfaces	–	–	Infant Flow LP <sup>®</sup> , Medijet <sup>®</sup>
HFOT			
Flow	2 – 80 L/min	2 – 80 L/min	1 – 60 L/min
Ramp	1 – 20 min, Off	1 – 20 min, Off	1 – 20 min, Off

Lung Recruitment Tool	Adult	Pediatric	Neonatal*
P <sub>Start</sub>	0 – 50 mbar	0 – 50 mbar	–
P <sub>End</sub>	0 – 50 mbar	0 – 50 mbar	–
Slope	2 – 5 mbar/s	2 – 5 mbar/s	–
P <sub>Max</sub>	10 – 100 mbar	10 – 100 mbar	–
T <sub>Recruit</sub>	0 – 60 s	0 – 60 s	–
PEEP <sub>End</sub>	0 – 50 mbar	0 – 50 mbar	–
<b>ATC</b>			
Endotracheal Tube Ø	5.0 – 12.0 mm	–	–
Tracheostomy Tube Ø	5.0 – 12.0 mm	–	–
Tube Compensation	10 – 100 %	–	–
Inspiratory + Expiratory	✓	–	–
Inspiratory	✓	–	–
<b>P<sub>TP</sub>/P<sub>TA</sub>*</b>			
Endotracheal Tube Ø	2.5 – 12 mm	2.5 – 12 mm	2.5 – 12 mm
Tracheostomy Tube Ø	2.5 – 12 mm	2.5 – 12 mm	2.5 – 12 mm
<b>Sigh</b>			
Sigh amplitude	5 – 50 %	5 – 50 %	5 – 50 %
Sigh interval	10 – 200 breaths	10 – 200 breaths	10 – 200 breaths
Sigh breaths	1 – 5	1 – 5	1 – 5

Monitoring Parameters	Description	Range Adult/ Pediatric/Neonatal	Resolution	Accuracy	Accuracy Neonatal*
P <sub>Peak</sub>	Peak pressure during inspiration	0 – 100 mbar	1		±(2 mbar +4 %)
P <sub>Mean</sub>	Mean pressure during the entire respiratory cycle	0 – 100 mbar	1		±(2 mbar +4 %)
P <sub>Plateau</sub>	Plateau pressure (only available if plateau is >0)	0 – 100 mbar	1		±(2 mbar +4 %)
P <sub>Insp</sub>	Applied inspiratory pressure (relative above PEEP).	0 – 100 mbar	1		±(2 mbar +4 %)
PEEP/CPAP	Positive end – expiratory pressure	0 – 100 mbar	1		±(2 mbar +4 %)
Rate	Respiratory rate	0 – 200 breaths/min	1		±1
T <sub>Insp</sub>	Inpiration time	0 – 100 s	0.1		10 %
T <sub>Exp</sub>	Duration of expiration	0 – 100 s	0.1		10 %
Vt	Leak – compensated tidal volume	0 – 2500 mL	1	±10 mL; ±10 %	±1mL; ±10 %
Vt <sub>Insp</sub>	Inspiratory tidal volume	0 – 2500 mL	1	±10 mL; ±10 %	±1mL; ±10 %
Vt <sub>Exp</sub>	Expiratory tidal volume	0 – 2500 mL	1	±10 mL; ±10 %	±1mL; ±10 %
Vt <sub>/kg</sub> , Vt <sub>Insp/kg</sub> , Vt <sub>Exp/kg</sub>	Tidal volume per kg body weight	0 – 100 mL/kg	0.01		
MV	Leak – compensated minute volume	0 – 250 L/min	0.001	±0.5 L/min; ±10 %	±0.12 L/min; ±10 %
MV <sub>Exp</sub>	Expiratory minute volume	0 – 250 L/min	0.001	±0.5 L/min; ±10 %	±0.12 L/min; ±10 %
MV <sub>Insp</sub>	Inspiratory minute volume	0 – 250 L/min	0.001	±0.5 L/min; ±10 %	±0.12 L/min; ±10 %
MV <sub>/kg</sub> , MV <sub>Insp/kg</sub> , MV <sub>Exp/kg</sub>	Minute volume per kg body weight	0 – 9999 mL min/kg	0.1		
T <sub>Insp</sub> / T <sub>Tot</sub>	Ratio of inspiratory time to duration of respiratory cycle	0 – 100 %	1		10 %
%Spont	Percentage of spontaneous breaths per minute	0 – 100 %	1		±1
Flow	Flow delivered in HFOT	0 – 100 L/min	1	±0.5 L/min; ±10 %	±0.12 L/min; ±10 %
Flow <sub>Exp Peak</sub>	Expiratory peak flow	0 – 180 L/min	1	±0.5 L/min; ±10 %	±0.12 L/min; ±10 %
Flow <sub>Insp Peak</sub>	Peak inspiratory flow	0 – 180 L/min	1	±0.5 L/min; ±10 %	±0.12 L/min; ±10 %
Flow <sub>Mean</sub>	Mean flow / min (nCPAP and nIPPV)	0 – 100 L/min	1		±0.12 L/min; ±10 %
PTP	Pressure Time Product	0 – 100 mbar *s	0.01		–
I:E	Ratio of inspiration time to expiration time	1:99 – 100:1	0.1		10 %
Leak %	Leak in % of the volume delivered to the patient	0 – 100 %	1		
Leak flow	Mean leak flow / min	0 – 200 L/min	1		±15 %
Pulse	Pulse rate (SpO <sub>2</sub> )	0 – 3001/min	1	±5 1/min	±3 1/min
SpO <sub>2</sub>	Oxygen saturation measured with pulse oximeter	0 – 100 %	1		±3 %

Monitoring Parameters	Description	Range Adult/ Pediatric/Neonatal	Resolution	Accuracy	Accuracy Neonatal*
etCO <sub>2</sub>	End-expiratory CO <sub>2</sub>	0 – 15 %	0.1	±0.2 vol %	+2 % reading
inCO <sub>2</sub>	Maximum inspiratory CO <sub>2</sub> concentration	0 – 15 %	0.1	±0.2 vol %	+2 % reading
MVCO <sub>2</sub>	Exhaled CO <sub>2</sub> volume per minute	0 – 250 L/min	0.001		–
VtCO <sub>2</sub>	Exhaled CO <sub>2</sub> tidal volume per breath	0 – 2500 mL	1		–
Vd	Anatomical dead space	0 – 2500 mL	1		–
Vd/kg	Anatomical dead space per kg	0 – 100 mL/kg	0.01		–
VD/Vt <sub>Exp</sub>	Dead space volume / Tidal volume ratio	0 – 100 %	1		–
Vt <sub>alv</sub>	Alveolar tidal volume	0 – 2500 mL	1		–

Expert Ventilation	Description	Range Adult/ Pediatric/Neonatal	Resolution	Accuracy	Accuracy Neonatal*
Auto <sub>PEEP</sub>	Pressure above PEEP measured at the end of the Hold <sub>Exp</sub> maneuver.	0 – 100 mbar	1		±(2 mbar +4 %)
NIF	Negative Inspiration Force. Minimal pressure below PEEP during a Hold <sub>Exp</sub> maneuver.	0 – –50 mbar	1		±(2 mbar +4 %)
P <sub>0.1</sub>	Occlusion pressure 100 ms after trigger.	0 – 100 mbar	0.1		±(2 mbar +4 %)
V <sub>Trapped</sub>	Volume trapped by AutoPEEP.	0 – 2500 mL	1		±10 mL; ±10 %

AVM	Description	Range Adult/ Pediatric/Neonatal	Resolution	Accuracy	Accuracy Neonatal*
Rate <sub>Target</sub>	Mandatory target rate of AVM	5 – 100 bpm	1		–
MV <sub>Target</sub>	Target minute volume in AVM	0 – 250 L/min	0.1		–
T <sub>InspTarget</sub>	Inspiratory time of mandatory AVM breaths	0.5 – 2 s	0.1		–
Vt <sub>Target</sub>	Target tidal volume for AVM	40 – 2500 mL	1		–

Expert Monitoring	Description	Range Adult/ Pediatric/Neonatal	Resolution	Accuracy	Accuracy Neonatal*
Rate <sub>Spont</sub>	Respiratory rate of spontaneous breaths	0 – 200 breaths/min	1		±1
T <sub>InspSupport</sub>	Duration of inspiration in the case of pressure-supported breaths	0 – 100 s	0.01		10 %
%Spont 1h	Percentage of spontaneous breaths over the last 8 hours	0 – 100 %	1		±1
%Spont 8h	Percentage of spontaneous breaths over the last 8 hours	0 – 100 %	1		±1
MV <sub>InspSpont</sub>	Inspiratory minute volume of spontaneous breaths	0 – 250 L/min	0.001	±0.5 L/min; ±10 %	±0.12 L/min; ±10 %

Expert Monitoring	Description	Range Adult/ Pediatric/Neonatal	Resolution	Accuracy	Accuracy Neonatal*
MV <sub>ExpSpont</sub>	Expiratory minute volume of spontaneous press	0 – 250 L/min	0.001	±0.5 L/min; ±10 %	±0.12 L/min; ±10 %
MV <sub>Spont</sub>	Leak-compensated minute volume of spontaneous breaths	0 – 250 L/min	0.001	±0.5 L/min; ±10 %	±0.12 L/min; ±10 %
RSBI	Rapid Shallow Breathing Index (Tobin Index)	1 – 9999 breaths /min/L	1		
R <sub>Insp</sub>	Inspiratory resistance	0 – 300 mbar/L/s	1		
R <sub>Exp</sub>	Expiratory resistance	0 – 300 mbar/L/s	1		
C <sub>Stat</sub>	Static compliance	0 – 1000 mL/mbar	0.1		
WOB <sub>Imp</sub>	Work of Breathing imposed	0.00 – 9.99 J/L	0.001		

Lung Mechanics	Description	Range Adult/ Pediatric/Neonatal	Resolution	Accuracy	Accuracy Neonatal*
RC <sub>Exp</sub>	Expiratory time constant	0.1 – 5 s	0.1		–
C <sub>20</sub> /C <sub>Dyn</sub>	A measure for potential overdistension of the lung	0 – 900 %	1		
C <sub>Dyn</sub>	Dynamic compliance	0 – 1000 mL/mbar	1		
C <sub>Stat/kg</sub> , C <sub>Dyn/kg</sub>	Compliance per kg of set ideal body weight	0 – 99 mL/mbar/kg	0.01		

Lung Recruitment Tool	Description	Range Adult/ Pediatric/Neonatal	Resolution	Accuracy	Accuracy Neonatal*
C <sub>Cursor Infl</sub> , C <sub>Cursor Defl</sub>	Compliance between the manually set cursor lines.	0 – 1000 mL/mbar	0.1		–
dV <sub>Max</sub>	Maximum volume hysteresis in the lung recruitment and assessment maneuver	0 – 2500 mL	1	±10 mL; ±10 %	–
P <sub>dV Max</sub>	Airway pressure at the maximum volume hysteresis in a lung recruitment and assessment maneuver	0 – 100 mbar	1	±2 mbar ±4 %	–
V <sub>Insp</sub>	Maximum tidal volume during the lung recruitment and assessment maneuver	0 – 2500 mL	1	±10 mL; ±10 %	–
V <sub>PEEP</sub>	Volume gain at the end of the lung recruitment and assessment maneuver.	0 – 2500 mL	1	±10 mL; ±10 %	–
V <sub>Recruit</sub>	Volume gain through recruitment during T <sub>Recruit</sub>	0 – 2500 mL	1	±10 mL; ±10 %	–

Esophageal Pressure Monitoring*	Description	Range Adult/ Pediatric/Neanatal	Resolution	Accuracy	Accuracy Neonatal*
P <sub>aux</sub>	Auxiliary pressure	-30 – +100 mbar	0.1	±(2 mbar +4 %)	
ΔP <sub>es</sub>	Delta esophageal pressure	0 – 100 mbar	0.1	±(2 mbar +4 %)	
ΔP <sub>TASstat</sub>	Transalveolar tidal pressure (Driving pressure)	-50 – +100 mbar	0.1		
C <sub>TA</sub>	Transalveolar compliance (Lung compliance)	0 – 1000 mL/mbar	0.1		
C <sub>CW</sub>	Chest wall compliance	0 – 1000 mL/mbar	0.1		
P <sub>esInsp</sub>	Inspiratory esophageal pressure	-50 – +100 mbar	0.1	±(2 mbar +4 %)	
P <sub>esExp</sub>	Expiratory esophageal pressure	-50 – +100 mbar	0.1	±(2 mbar +4 %)	
PEEP <sub>TA</sub>	Transalveolar PEEP	-40 – +100 mbar	0.1	±(2 mbar +4 %)	
P <sub>TAIInsp</sub>	Inspiratory transalveolar pressure (resistance compensated)	-50 – +100 mbar	0.1	±(2 mbar +4 %)	
P <sub>TAEExp</sub>	Expiratory transalveolar pressure (resistance compensated)	-50 – +100 mbar	0.1	±(2 mbar +4 %)	
P <sub>TASstat</sub>	Transalveolar plateau pressure	0 – 100 mbar	0.1		
P <sub>TPInsp</sub>	Inspiratory transalveolar pressure	-50 – +100 mbar	0.1		
P <sub>TPExp</sub>	Expiratory transalveolar pressure	-50 – +100 mbar	0.1		

Alarm Limits <sup>3</sup>	Adult	Pediatric	Neonatal*	Autoset
FiO <sub>2</sub>	High: 24 – 100 % Low: 18 – 80 %	High: 24 – 100 % Low: 18 – 80 %	High: 24 – 100 % Low: 18 – 80 %	± 5 %
P <sub>Peak</sub>	High: 5 – 105 mbar Low: Off, 1 – 84 mbar	High: 5 – 70 mbar Low: Off, 1 – 49 mbar	High: 7 – 65 mbar Low: Off, 1 – 55 mbar	± 5 mbar
MV, MV <sub>Insp</sub> , MV <sub>Exp</sub>	High: 0.1 – 60 L/min, Off Low: Off, 0.1 – 50 L/min	High: 0.1 – 60 L/min, Off Low: Off, 0.1 – 50 L/min	High: 0.1 – 20 L/min, Off Low: Off, 0.01 – 19.9 L/min	± 35 %
Vt, Vt <sub>Insp</sub> , Vt <sub>Exp</sub>	High: 250 – 3500 mL, Off Low: Off, 10 – 2500 mL	High: 40 – 1000 mL, Off Low: Off, 10 – 500 mL	High: 1 – 350 mL, Off Low: Off, 0.1 – 340 mL	± 35 %
Rate	High: 1 – 100 breaths/min Low: Off, 1 – 99 breaths/min	High: 1 – 150 breaths/min Low: Off, 1 – 149 breaths/min	High: 1 – 210 breaths/min Low: Off, 1 – 210 breaths/min	± 35 %
Apnea time	15 – 100 s	4 – 100 s	4 – 60 s	n. a.
SpO <sub>2</sub>	0 – 100 %	0 – 100 %	0 – 100 %	± 5 %
Pulse	High: 20 – 300 1/min Low: 15 – 295 1/min	High: 20 – 300 1/min Low: 15 – 295 1/min	High: 20 – 300 bpm Low: 15 – 295 bpm	± 15 bpm
etCO <sub>2</sub>	High: 0.1 – 15 % Low: 0.1 – 15 %	High: 0.1 – 15 % Low: 0.1 – 15 %	High: 0.1 – 15 % Low: 0.1 – 15 %	± 1 %
inCO <sub>2</sub>	0 – 15 %	0 – 15 %	0 – 15 %	
Leak %	5 – 100 %, Off	5 – 100 %, Off	Off	

## Interfaces

RS232	3
Display Port	✓
Ethernet	100 Mbit
USB	2
Nurse Call	✓
etCO <sub>2</sub>	○
SpO <sub>2</sub>	○
CAN Bus (Service only)	✓
Connection protocols*	VueLink, IntellibrIDGE, HL7
Dimensions (w × h × d)	440 × 290 × 360 mm/17.32 × 9.84 × 14.18 inch
Screen	17.3" Color Full HD Touchscreen, TFT
Resolution	1920 × 1080 pixels
Touchscreen	Capacitive, glass touchscreen
Battery time	minimum 180 min. (internal)
Oxygen supply	0–7 bar, 21.75 – 101.5 psi, 0 – 110 L/min
Oxygen connectors	DISS or NIST
Air inlet	Built-in turbine, 5 years unlimited warranty
Weight	14.8 kg
Protection class	IP21
Color	Dark Grey/Silver
Classification	Class IIb, EU-Guideline 93/42/EWG
Certificates	<p>CB certificate (by CSA) with fulfillment of following norms</p> <ul style="list-style-type: none"> <li>• IEC 60601-1:2005/AMD1:2012</li> <li>• IEC 60601-1-6:2010/AMD1:2013</li> <li>• IEC 60601-1-8:2006/AMD1:2012</li> <li>• ISO 80601-2-12:2011</li> <li>• ISO 80601-2-55:2011</li> <li>• ISO 80601-2-61:2011</li> <li>• Including national deviations for CA, KR and US</li> <li>• IEC 60601-1-2:2007</li> <li>• IEC 60601-1-2:2014</li> <li>• Including national deviations for EU, CA and US</li> </ul>
Declaration	bellavista is certified according to a certified quality management system according to EN ISO 13485 and quality assurance system according to EU Directive 93/42/EEC Annex II, excluding section (4)
Acoustic power level	47.91dBA (Single Limb), 52.98 dBA(Dual Limb)
Power input AC	100 – 240 VAC, 50 – 60 Hz (80 – 264 VAC max. tolerance)
Power input DC	24 VDC (20 – 29 VDC) / 3.5 – 6 A
Power consumption	80 – 200 VA

## Interfaces

### Units

Pressure monitoring	mbar, cmH <sub>2</sub> O, hPa
Pressure input	bar, kPa, psi
CO <sub>2</sub>	%, mmHg, kPa, hPa
Height	cm, ft, inch

### Software Options

Expert Ventilation	✓
Expert Monitoring	✓
Lung Mechanics	✓
Extended Pressure Range	✓
Neonatal advanced	○
TargetVent	✓
DualVent	✓
DayNight	✓
ChameleonClassic	✓
ChameleonGreen	✓
Data Communication	✓
High Flow Oxygen Therapy	✓
Lung Recruitment Tool	✓
Auxiliary Pressure	✓
Esophageal Pressure Monitoring	○
Integrated Pneumatic Nebulizer	✓
Diagnostics Package Pulse Oximetry	✓
Diagnostics Package Capnography	✓

### Legend

Standard	Optional	not applicable	not available
✓	○	-	-

## NOTES

\* Optional

1 SpO<sub>2</sub> plethysmography not included

2 Capnometer not included

3 Complete overview of alarms in the user manual

Not all options are available in every country. Please contact your local dealer or contact us on [www.vyaire.com](http://www.vyaire.com) for further information.

## GLOBAL HEADQUARTERS

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