



# bellavista™ 1000

Intensive care ventilator

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The bellavista™ 1000 ventilator offers state of the art technology and an innovative & configurable 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. It provides expanded monitoring capabilities for improved patient management and offers exceptional leak compensation and adaptive trigger algorithms. The bellavista 1000 goes beyond standard non-invasive ventilation (NIV) and supports patients through the continuum of care whether its invasive, non-invasive ventilation or High Flow Oxygen Therapy (HFOT), all in one device.

The full HD, crystal clear 13.3" glass touchscreen, a powerful turbine blower drive, compact design and battery life of minimum 4 hours expands your reach and allows you to comfortably use bellavista for intra-hospital transportation.

## Area of application

Intensive Care Unit (ICU)
Neonatal Intensive Care Unit (NICU)*
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 flow rates up to 50 L/min.
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.
auto.sync	Free the patient from a fixed trigger setting with auto.sync and improve synchrony.
auto.rise	Automatic adaption of rise time with a breath by breath analysis.
auto.leak	Adaptive inspiratory and expiratory leakage compensation.
nasal CPAP	Experience highly advanced nCPAP with apnoea and respiratory rate detection. nCPAP can be used with the Infant Flow LP generator.
Mask Mode Neo	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.
Alarm and EventLog	Stores up to 5000 alarms and events.



Adaptive Ventilation Mode



High Flow Oxygen Therapy



AnimatedLung

Modes of Ventilation	Description	Invasive (optional)	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 Control 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	✓	✓	✓	✓
<b>Non-invasive</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>beModes</b>					
DualVent	Automatic switching between two modes	✓	✓	○	○
Day/Night	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, P-A/C <sub>Target</sub> , PC-SIMV <sub>Target</sub> , S/T, S/T <sub>Target</sub>	P-A/C, PC-SIMV, P-A/C <sub>Target</sub> , PC-SIMV <sub>Target</sub> , nIPPV, S/T, S/T <sub>Target</sub>
Backup Modes	PSV	PSV
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) <sup>5</sup>	✓	–
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	✓	✓
Alarm and EventLog	✓	✓
Tests		
Automatic system test during startup	✓	✓
Circuit test	✓	✓
CO <sub>2</sub> sensor calibration	✓	✓
Oxygen sensor calibration	✓	✓

General Settings	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>		
P <sub>aw</sub> /Volume	✓	✓
P <sub>aw</sub> /Flow	✓	✓
Flow/Volume	✓	✓
P <sub>es</sub> /Volume	✓	✓
P <sub>TP</sub> /Volume	✓	✓
P <sub>TA</sub> /Volume	✓	✓
Volumetric CO <sub>2</sub>	○	-
Reference Loops	✓	✓
Loop overlay	✓	✓
<b>Trending</b>		
Parameter Trending	✓	✓
Realtime Trending	✓	✓
<b>Maneuvers</b>		
Manual Breath	✓	✓
Sigh	✓ <sup>5</sup>	-
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	○	○
P <sub>TP</sub> /P <sub>TA</sub>	○	○

Features	Adult/Pediatric	Neonatal*
<b>Graphics</b>		
AnimatedLung	✓	–
VentSummary	✓	–
AVM TargetView	✓	–
Target <sub>Graph</sub>	✓	✓
<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>	○	○
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*
$P_{Insp}$ , $P_{High}$ , IPAP	2 – 60 mbar, 2 – 95 mbar*	2 – 60 mbar	2 – 60 mbar
$P_{Support}$	0 – 60 mbar, 0 – 95 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
RateBackup	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 $T_{Cycl}$	0 – 70% of $T_{Cycl}$	–
$T_{Insp}$ , I-time	0.1 – 10 s	0.1 – 10 s	0.1 – 2 s
$T_{Insp Max}$ , I-time <sub>Max</sub>	0.5 – 3 s	0.3 – 3 s	0.3 – 2 s
$T_{High}$	0.1 – 59.8 s	0.1 – 59.8 s	–
$T_{Low}$	0.2 – 10 s	0.2 – 10 s	–
$Vt_{Insp}/Vt_{Target}$	150 – 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	–
$Vt_{Target}$	150 – 2500 mL	40 – 500 mL	–
$P_{Limit}$	5 – 95 mbar	5 – 60 mbar	–
nCPAP / nIPPV			
Flow nCPAP	–	–	2 – 18 L/min
Pressure nCPAP	–	–	0 – 20 mbar
PEEP	–	–	0 – 20 mbar
$P_{Insp}$	–	–	0 – 30 mbar
$T_{Insp Man}$	–	–	0.1 – 3 s
$T_{Insp}$	–	–	0.1 – 3 s
Rate	–	–	6 – 200 breaths/min
Rise Time	–	–	0 – 400 ms
Interface	–	–	Infant Flow LP®
HFOT			
Flow	2 – 50 L/min	2 – 50 L/min	1 – 50 L/min



Lung Recruitment Tool*	Adult	Pediatric	Neonatal*
$P_{Start}$	0 – 50 mbar	0 – 50 mbar	–
$P_{End}$	0 – 50 mbar	0 – 50 mbar	–
Slope	2 – 5 mbar/s	2 – 5 mbar/s	–
$P_{Max}$	10 – 100 mbar	10 – 100 mbar	–
$T_{Recruit}$	0 – 60 s	0 – 60 s	–
$PEEP_{End}$	0 – 50 mbar	0 – 50 mbar	–
ATC			
Endotracheal Tube Ø	5.0 – 12.0 mm	–	–
Tracheostomy Tube Ø	5.0 – 12.0 mm	–	–
Tube Compensation	10 – 100%	–	–
Inspiratory + Expiratory	✓	–	–
Inspiratory	✓	–	–
$P_{TP} / P_{TA}^*$			
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
Sigh			
Sigh amplitude	5 – 50%	–	–
Sigh interval	10 – 200 breaths	–	–
Sigh breaths	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>	Inspiration 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	±4 mL; ±15%	±1 mL; ±15%
Vt <sub>Insp</sub>	Inspiratory tidal volume	0 – 2500 mL	1	±4 mL; ±15%	±1 mL; ±15%
Vt <sub>Exp</sub>	Expiratory tidal volume	0 – 2500 mL	1	±4 mL; ±15%	±1 mL; ±15%
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; ±15%	±0.12 L/min; ±15%
MV <sub>Insp</sub>	Inspiratory minute volume	0 – 250 L/min	0.001	±0.5 L/min; ±15%	±0.12 L/min; ±15%
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 <sup>4</sup>	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 – 300 1/min	1	±5 1/min	±3 1/min
SpO <sub>2</sub>	Oxygen saturation measured with pulse oximeter	0 – 100%	1		±3%
etCO <sub>2</sub>	End-expiratory CO <sub>2</sub>	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		–

Monitoring Parameters	Description	Range Adult/ Pediatric/Neonatal	Resolution	Accuracy	Accuracy Neonatal*
VtCO <sub>2</sub>	Exhaled CO <sub>2</sub> tidal volume per breath	0 – 2500 mL	1		–
Vd <sub>aw</sub>	Anatomical dead space	0 – 2500 mL	1		–
Vd/kg	Airway dead space volume per kg body weight	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 HoldExp maneuver.	0 – 100 mbar	1		±(2 mbar +4%)
NIF	Negative Inspiration Force. Minimal pressure below PEEP during a HoldExp 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>Insp Target</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>Insp Support</sub>	Duration of inspiration in the case of pressure supported breaths	0 – 100 s	0.01		10%
%Spont <sub>1h</sub>	Percentage of spontaneous breaths over the last hour	0 – 100%	1		±1
%Spont <sub>8h</sub>	Percentage of spontaneous breaths over the last 8 hours	0 – 100%	1		±1
MV <sub>Insp Spont</sub>	Inspiratory minute volume of spontaneous breaths	0 – 250 L/min	0.001	±0.5 L/min; ±15%	±0.12 L/min; ±15 %

Expert Monitoring	Description	Range Adult/ Pediatric/Neonatal	Resolution	Accuracy	Accuracy Neonatal*
$MV_{Exp\ Spont}$	Expiratory minute volume of spontaneous press	0 – 250 L/min	0.001	$\pm 0.5$ L/min; $\pm 15\%$	$\pm 0.12$ L/min; $\pm 15\%$
$MV_{Spont}$	Leak-compensated minute volume of spontaneous breaths	0 – 250 L/min	0.001	$\pm 0.5$ L/min; $\pm 15\%$	$\pm 0.12$ L/min; $\pm 15\%$
RSBI	Rapid Shallow Breathing Index (Tobin Index)	1 – 9999 breaths/min/L	1		
$R_{Insp}$	Inspiratory resistance	0 – 300 mbar/L/s	1		
$R_{Exp}$	Expiratory resistance	0 – 300 mbar/L/s	1		
$C_{Stat}$	Static compliance	0 – 1000 mL/mbar	0.1		
$WOB_{Imp}^4$	Work of Breathing imposed	0.00 – 9.99 J/L	0.001		

Lung Mechanics	Description	Range Adult/ Pediatric/Neonatal	Resolution	Accuracy	Accuracy Neonatal*
$RC_{Exp}$	Expiratory time constant	0.1 – 5 s	0.1		–
$C_{20}/C_{Dyn}$	A measure for potential overdistension of the lung	0 – 900%	1		
$C_{Dyn}$	Dynamic compliance	0 – 1000 mL/mbar	1		
$C_{Stat/kg}$ $C_{Dyn/kg}$	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*
$C_{Cursor\ Infl}$ $C_{Cursor\ Defl}$	Compliance between the manually set cursor lines.	0 – 1000 mL/mbar	0.1		–
$dV_{Max}$	Maximum volume hysteresis in the lung recruitment and assessment maneuver	0 – 2500 mL	1	$\pm 10$ mL; $\pm 10\%$	–
$P_{dV\ Max}$	Airway pressure the maximum volume hysteresis in a lung recruitment and assessment maneuver	0 – 100 mbar	1	$\pm (2\text{ mbar} + 4\%)$	–
$V_{Insp}$	Maximum tidal volume during the lung recruitment and assessment maneuver	0 – 2500 mL	1	$\pm 10$ mL; $\pm 10\%$	–
$V_{PEEP}$	Volume gain at the end of the lung recruitment and assessment maneuver	0 – 2500 mL	1	$\pm 10$ mL; $\pm 10\%$	–
$V_{Recruit}$	Volume gain through recruitment during $T_{Recruit}$	0 – 2500 mL	1	$\pm 10$ mL; $\pm 10\%$	–

Esophageal pressure monitoring*	Description	Range Adult/ Pediatric/Neonatal	Resolution	Accuracy	Accuracy Neonatal*
$P_{aux}$	Auxiliary pressure	-30 – +100 mbar	0.1		$\pm(2 \text{ mbar} + 4\%)$
$\Delta P_{es}$	Delta esophageal pressure	0 – 100 mbar	0.1		$\pm(2 \text{ mbar} + 4\%)$
$\Delta P_{TAS\text{tat}}$	Transalveolar tidal pressure (Driving pressure)	-50 – +100 mbar	0.1		
$C_{TA}$	Transalveolar compliance (Lung compliance)	0 – 1000 mL/mbar	0.1		
$C_{CW}$	Chest wall compliance	0 – 1000 mL/mbar	0.1		
$P_{es\text{insp}}$	Inspiratory esophageal pressure	-50 – +100 mbar	0.1		$\pm(2 \text{ mbar} + 4\%)$
$P_{es\text{Exp}}$	Expiratory esophageal pressure	-50 – +100 mbar	0.1		$\pm(2 \text{ mbar} + 4\%)$
$PEEP_{TA}$	Transalveolar PEEP	-40 – +100 mbar	0.1		$\pm(2 \text{ mbar} + 4\%)$
$P_{PTP\text{Insp}}$	Inspiratory transalveolar pressure (resistance compensated)	-50 – +100 mbar	0.1		$\pm(2 \text{ mbar} + 4\%)$
$P_{PTP\text{Exp}}$	Expiratory transalveolar pressure (resistance compensated)	-50 – +100 mbar	0.1		$\pm(2 \text{ mbar} + 4\%)$
$P_{TAS\text{tat}}$	Transalveolar plateau pressure	0 – 100 mbar	0.1		
$P_{TA\text{Insp}}$	Inspiratory transalveolar pressure	-50 – +100 mbar	0.1		
$P_{TA\text{Exp}}$	Expiratory transalveolar pressure	-50 – +100 mbar	0.1		

Alarm Limits <sup>3</sup>	Adult	Pediatric	Neonatal	Autoset
$FiO_2$	High: 24 – 100% Low: 18 – 80%	High: 24 – 100% Low: 18 – 80%	High: 24 – 100% Low: 18 – 80%	$\pm 5\%$
$P_{Peak}$	High: 5 – 105 mbar Low: Off, 1 – 75 mbar	High: 7 – 65 mbar Low: Off, 1 – 40 mbar	High: 7 – 65 mbar Low: 1 – 40 mbar	$\pm 5 \text{ mbar}$
$MV, MV_{\text{Insp}}, MV_{\text{Exp}}$	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, 0.1 – 19.9 L/min	$\pm 35\%$
$Vt, Vt_{\text{Insp}}, Vt_{\text{Exp}}$	High: 150 – 3000 mL, Off Low: Off, 10 – 2500 mL	High: 40 – 700 mL, Off Low: Off, 10 – 500 mL	High: 1 – 300 mL, Off Low: Off, 0.1 – 290 mL	$\pm 35\%$
Rate	High: 1 – 100 breaths/min Low: 1 – 99 breaths/min	High: 1 – 130 breaths/min Low: 1 – 129 breaths/min	High: 1 – 210 breaths/min Low: 1 – 210 breaths/min	$\pm 35\%$
Apnea time	2 – 60 s	2 – 60 s	2 – 60 s	n. a.
$SpO_2$	High: 71 – 100%, Off Low: 70 – 99%	High: 71 – 100%, Off Low: 70 – 99%	High: 71 – 100%, Off Low: 70 – 99%	$\pm 5\%$
Pulse	High: 20 – 300 1/min Low: 15 – 295 1/min	High: 20 – 300 1/min Low: 15 – 295 1/min	High: 20 – 300 1/min Low: 15 – 295 1/min	$\pm 15 \text{ bpm}$
$etCO_2$	High: 0.1 – 15% Low: 0.1 – 15%	High: 0.1 – 15% Low: 0.1 – 15%	High: 0.1 – 15% Low: 0.1 – 15%	$\pm 1\%$
Leak %	5 – 100%, Off	5 – 100%, Off	Off	

## Interfaces

RS232	2
Ethernet (Service only)	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)	350 × 220 × 330 mm / 13.78 × 8.66 × 12.99 inch
Screen	13.3" Color Full HD Touchscreen, TFT
Resolution	1920 × 1080 pixels
Touchscreen	Capacitive, glass touchscreen
Battery time	minimum 240 min. (internal)
Oxygen supply	0 – 7 bar, 21.75 – 101.5 psi, 0 – 110 L/min
Oxygen connectors	DISS
Air inlet	Built-in turbine, 5 years unlimited warranty
Weight	12.8 kg
Protection class	IP21
Color	Dark Grey/Silver
Certificates	<p>CB Certificate (by CSA) mit fulfilment of following norms            IEC 60601 – 1:2005 / AMD1:2012            IEC 60601 – 1 – 6:2010 / AMD1:2013            IEC 60601 – 1 – 8:2006 / AMD1:2012            ISO 80601 – 2 – 12:2011            ISO 80601 – 2 – 55:2011            ISO 80601 – 2 – 61:2011            including National Deviations for US</p> <p>IEC 60601 – 1 – 2:2007            IEC 60601 – 1 – 2:2014            Including national deviations for US</p>
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	49.1 dBA (Single Limb), 50.8 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

## 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
Weight	kg, lbs

## Software Options

Extended Pressure Range	<input type="radio"/>
Neonatal advanced	<input type="radio"/>
DualVent	<input type="radio"/>
Day/Night	<input type="radio"/>
High Flow Oxygen Therapy	<input type="radio"/>
Lung Recruitment Tool	<input type="radio"/>
Auxiliary Pressure	<input type="radio"/>
Esophageal Pressure Monitoring	<input type="radio"/>
Diagnostics Package Pulse Oximetry	<input type="radio"/>
Diagnostics Package Capnography	<input type="radio"/>

## Legend

Standard	Optional	not available
✓	<input type="radio"/>	-

For more information, please contact your local dealer  
or Vyaire representative.

## NOTES

- \* Optional
- 1 SpO<sub>2</sub> plethysmography not included
- 2 Capnometer not included
- 3 Complete overview of alarms in the user manual
- 4 Only available for Adult and Pediatric
- 5 Only available for Adult

## GLOBAL HEADQUARTERS

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