Comprehensive ventilatory support at the bedside: When it comes to the neonatal care area, clinicians need immediate access to the complete spectrum of respiratory support. Noninvasive, invasive and advanced therapies are all key components in meeting the needs of these frail patients. The Babylog® VN500 is the clinician’s choice for the neonatal intensive care unit.

**TECHNICAL DATA**

<table>
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<tr>
<th>Patient type</th>
<th>Neonates and pediatric patients</th>
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**Ventilation settings**

**Ventilation modes**
- Pressure-controlled ventilation:
  - PC-CMV
  - PC-AC
  - PC-SIMV
  - PC-PSV
  - PC-APRV (optional)
  - PC-HFO (optional)
  - PC-MMV (optional)

Support of spontaneous breathing:
- SPN-CPAP/PS
- SPN-CPAP/VS (optional)
- SPN-PPS (optional)

**Enhancements**
- Apnea ventilation
- Flow trigger
- Sigh function
- Volume Guarantee (VG) (optional)
- Automatic Tube Compensation (ATC) (optional)
- PC-APRV with AutoRelease (optional)
- HFO-Sigh (optional)
- HFO-Volume Guarantee (HFO-VG) (optional)

**Special procedures**
- Suction maneuver
- Manual inspiration/hold
- Medication nebulization

**Therapy types**
- Invasive ventilation (Tube)
- Non-invasive ventilation NIV
- O₂ Therapy

**Ventilation frequency (RR)**
0.5 to 150/min
<table>
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<tr>
<th>Parameter</th>
<th>Description</th>
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| Inspiratory time (Ti)                                                   | Neonates: 0.1 to 1.5 s  
|                                                                          | Pediatric patients: 0.1 to 3 s                                                                                                              |
| Maximum inspiratory time for flow cycled breaths (Timax)                | Neonates: 0.1 to 1.5 s  
|                                                                          | Pediatric patients: 0.1 to 4 s                                                                                                              |
| Tidal volume (VT) (optional)                                            | Neonates: 0.002 to 0.1 L under BTPS ± 8% of set value  
|                                                                          | Pediatric patients: 0.02 to 0.3 L under BTPS ± 5% of set value                                                                            |
| Tidal volume for pressure support (VT) (optional)                       | Neonates: 0.002 to 0.1 L under BTPS ± 8% of set value  
|                                                                          | Pediatric patients: 0.02 to 0.3 L under BTPS ± 5% of set value                                                                            |
| Activation state of Apnea Ventilation                                  | On, Off                                                                                                                                     |
| Activation state of the function                                        | On, Off                                                                                                                                     |
| Automatic return from Apnea Ventilation                                 |                                                                                                                                             |
| Tidal volume during Apnea Ventilation (VTapn)                           | Neonates: 0.002 to 0.1 L under BTPS ± 8% of set value  
|                                                                          | Pediatric patients: 0.02 to 0.3 L under BTPS ± 5% of set value                                                                            |
| Respiratory rate during Apnea Ventilation (RRapn)                       | 2 to 150/min                                                                                                                                |
| Inspiratory flow (Flow)                                                | 2 to 30 L/min                                                                                                                               |
| Inspiratory pressure (Pinsp)                                           | 1 to 80 mbar (or hPa or cmH₂O)                                                                                                               |
| Inspiratory pressure limit (Pmax)                                      | 2 to 100 mbar (or hPa or cmH₂O)                                                                                                              |
| PEEP / intermittent PEEP (intPEEP)                                     | 0 to 35 mbar (or hPa or cmH₂O)                                                                                                              |
| Rise time for pressure support (Slope)                                  | Neonates: 0 to 1.5 s  
|                                                                          | Pediatric patients: 0 to 2 s                                                                                                               |
| O₂ concentration (FiO₂)                                                | 21 to 100 Vol%                                                                                                                               |
| Airway Pressure Release Ventilation (PC-APRV) (optional)               | - Inspiratory time (Thigh) 0.1 to 30 s  
|                                                                          | - Expiratory time (Tlow) 0.05 to 30 s  
|                                                                          | - Tlow max: 0.05 to 30 s  
|                                                                          | - Inspiratory pressure (Phigh) 1 to 80 mbar (or hPa or cmH₂O)  
|                                                                          | - Expiratory pressure (Plow) 0 to 35 mbar (or hPa or cmH₂O)  
|                                                                          | - Termination criterion (expiratory flow Exp. Term.) 1 to 80%                                                                               |
| Proportional Pressure Support (SPN-PPS) (optional)                     | Flow Assist  
|                                                                          | - Neonates: 0 to 300 mbar/L/s (or hPa/L/s or cmH₂O/L/s)  
|                                                                          | - Pediatric patients: 0 to 100 mbar/L/s (or hPa/L/s or cmH₂O/L/s)                                                                        |
|                                                                          | Volume Assist  
|                                                                          | - Neonates: 0 to 4000 mbar/L (or hPa/L or cmH₂O/L) corresponds to compliance compensation: 10000 to 0.5 mL/mbar (or mL/hPa or mL/cmH₂O)  
|                                                                          | - Pediatric patients: 0 to 10000 mbar/L (or hPa/L or cmH₂O/L) corresponds to compliance compensation: 10000 to 1 mL/mbar (or hPa/L or cmH₂O/L)  
| Automatic Tube Compensation (ATC) (optional)                           | Inner tube diameter Tube Ø  
|                                                                          | - Endotracheal tube ET  
|                                                                          | Pediatric patients: 2 to 8 mm (0.08 to 0.31 inch)  
|                                                                          | Neonatal patients: 2 to 5 mm (0.08 to 0.2 inch)  
|                                                                          | - Tracheostomy tube Trach.  
|                                                                          | Pediatric patients: 2.5 to 8 mm (0.1 to 0.31 inch)                                                                                          |
| High Frequency Oscillation (PC-HFO) (optional)                         | Degree of compensation 0 to 100%                                                                                                             |
|                                                                          | - Mean airway pressure (MAPhf) 5 to 50 mbar (or hPa or cmH₂O)  
|                                                                          | - Frequency of oscillation (fhf) 5 to 20 Hz  
|                                                                          | - I to E (I:Ehf) 1:1 to 1:3  
|                                                                          | - Pressure amplitude (Ampl hf) 1 to 90 mbar (or hPa or cmH₂O)  
|                                                                          | - Tidal volume (VThf) 0.2 to 40 mL  
|                                                                          | - Sigh pressure (Psigh) 5 to 80 mbar (or hPa or cmH₂O)  
|                                                                          | - Respiratory rate of sigh (RRsigh) 1 to 30 /min  
|                                                                          | - Sigh pressure rise time (Slope sigh)  
|                                                                          | Pediatric patients: 0 to 2 s  
|                                                                          | Neonates: 0 to 1.5 s  
|                                                                          | Sigh inspiratory time (Tisigh) 0.1 to 3 s                                                                                                    |
| Leakage compensation                                                   | On / Off  
|                                                                          | On: flow/volume correction and trigger adaptation  
|                                                                          | Off: trigger adaption                                                                                                                        |
| O₂ Therapy                                                              | Continuous Flow (BTPS) 2 to 50 L/min  
|                                                                          | O₂ concentration FiO₂ 21 to 100 Vol%                                                                                                        |
| Maneuver settings                                                       | Sigh  
|                                                                          | Sigh pressure (∆intPEEP) 0 to 20 mbar (or hPa or cmH₂O)  
|                                                                          | Time interval between sighs (Interval sigh) 20 s to 180 min  
|                                                                          | Number of cycles for a sigh (Cycles sigh) 1 to 20 exhalations}
### Maneuver settings
- **Oxygen enrichment for suction maneuver**
  - Actual FiO\(_2\) concentration is multiplied by a configured factor between 100 to 200%.
  - Individual factors can be configured for neonatal and pediatric patients
  - For 5, 10, 15, 30 minutes

- **Medication nebulization**
- **Endotracheal suction**
- **Disconnection detection**
- **Reconnection detection**
- **Initial oxygen enrichment**
- **Active suction phase**
- **Final oxygen enrichment**
  - Max. 3 minutes of increased FiO\(_2\) (factor 100 to 200% of set FiO\(_2\))
  - Max. 2 minutes
  - Max. 2 minutes of increased FiO\(_2\) (factor 100 to 200% of set FiO\(_2\))

### Measured values displayed
- **Airway pressure measurement**
  - Plateau pressure (Pplat)
  - Positive end-expiratory pressure (PEEP)
  - Mean airway pressure (Pmean)
  - Min. airway pressure (Pmin)
  - Lower pressure level in APRV (Plow)
  - End-inspiratory pressure for mandatory breaths (EIP)
  - Upper pressure level in APRV (Phigh)
  - Pressure amplitude (peak-to-peak) in HFO (∆Ppeak)
  - Range -60 to 120 mbar (or hPa or cmH\(_2\)O)

- **Flow measurement (proximal)**
  - Total minute volume (MV)
  - Mandatory minute volume (MVmand)
  - Spontaneous minute volume (MVspon)
  - Range 0 to 99 L/min BTPS

- **Tidal volume measurement**
  - Inspiratory tidal volume (VTimand)
  - Expiratory tidal volume (VTemand)
  - Inspiratory tidal volume (VTispon)
  - Expiratory tidal volume (VTemsp)
  - Range 0 to 5500 mL

- **Respiratory rate measurement**
  - Mandatory respiratory rate (RRmand)
  - Spontaneous respiratory rate (RRspon)
  - Range 0 to 300/min

- **O\(_2\) measurement (inspiratory side)**
  - Inspiratory O\(_2\) concentration (FiO\(_2\))
  - Range 18 to 100 Vol%

- **CO\(_2\) measurement in main flow**
  - End-expiratory CO\(_2\) concentration (etCO\(_2\))
  - Range 0 to 100 mmHg (or 0 to 13.2 Vol% or 0 to 13.3 kPa)
  - Internal volume of CO\(_2\) cuvette 5 mL

### Displayed calculated values
- **Leakage minute volume (MVleak)**
  - Range 0 to 99 L/min BTPS
- **Leakage**
  - Range 0 to 100%
- **Compliance (C)**
  - Range 0 to 650 mL/mbar (or mL/hPa or mL/cmH\(_2\)O)
  - Range 0 to 1000 mbar/(L/s) (or hPa/(L/s) or cmH\(_2\)O/(L/s))
  - Range 0 to 100%
- **Spontaneous portion of minute volume in percent (%MVspon)**
- **Curve displays**
  - Airway pressure (t) (Paw) -30 to 100 mbar (or hPa or cmH\(_2\)O)
  - Flow (t) -40 to 40 L/min
  - Volume (t) (V) 2 to 300 mL
  - CO\(_2\) (t) 0 to 100 mmHg (or 0 to 15 Vol% or 0 to 13 kPa)

### Alarms / Monitoring
- **Expiratory minute volume (MV)**
- **Airway pressure (Paw)**
- **Insp. O\(_2\) concentration (FiO\(_2\))**
- **End-expiratory CO\(_2\) concentration (etCO\(_2\))**
- **Respiratory rate (RR)**
- **Volume monitoring (VT) (in VG or VS)**
- **Apnea alarm time (Tapn)**
- **Disconnect alarm delay time (Tdisconnect)**
  - Range 0 to 99 L/min BTPS
  - Range 0 to 100%
  - Range 0 to 650 mL/mbar (or mL/hPa or mL/cmH\(_2\)O)
  - Range 0 to 1000 mbar/(L/s) (or hPa/(L/s) or cmH\(_2\)O/(L/s))
  - Range 0 to 100%
  - Range 0 to 99 L/min BTPS
  - Range 0 to 100%
  - Range 0 to 650 mL/mbar (or mL/hPa or mL/cmH\(_2\)O)
  - Range 0 to 1000 mbar/(L/s) (or hPa/(L/s) or cmH\(_2\)O/(L/s))
  - Range 0 to 100%
  - Low (automatic)
  - 5 to 60 seconds, Off
  - 0 to 60 seconds

### Performance data
- **Control principle**
- **Inspiratory flow BTPS**
- **Base flow, neonates**
- **Base flow, pediatric patients**
  - Time-cycled, pressure-controlled, continuous flow
  - Max. 30 L/min
  - 6 L/min
  - 3 L/min
### Operating data

#### Mains supply
- **Mains power connection**: 100 V to 240 V, 50/60 Hz
- **Current consumption**:
  - at 230 V max. 1.1 A Ventilation Unit with Medical Cockpit
  - at 230 V max. 1.6 A with GS500
  - at 100 V max. 2.5 A Ventilation Unit with Medical Cockpit
  - at 100 V max. 3.7 A with GS500

#### Power consumption
- **max. 250 W Ventilation Unit with Medical Cockpit**
- **max. 370 W with GS500**
- **in operation, without loading of internal battery**
  - approx. 100 W Ventilation Unit with Medical Cockpit
  - approx. 180 W with GS500

#### Gas supply
- **O₂ pressure**: 2.7 to 6.0 bar (or 270 to 600 kPa or 39 to 87 psi)
- **Air pressure**: 2.7 to 6.0 bar (or 270 to 600 kPa or 39 to 87 psi)

### Physical Specifications

#### Dimensions (W x H x D)
- **Babylog VN500**: 360 mm x 347 mm x 424 mm (14.17 inch x 13.66 inch x 16.69 inch)
- **Infinity C500**: 414 mm x 284 mm x 95 mm (16.29 inch x 11.18 inch x 3.74 inch)
- **Babylog VN500 and Infinity C500 on trolley**: 577 mm x 1400 mm x 677 mm (22.7 inch x 55.1 inch x 26.7 inch)
- **GS500 (mounting on trolley only)**: 291 mm x 218 mm x 381 mm (11.46 inch x 8.58 inch x 15 inch)

#### Weight
- **Babylog VN500**: approx. 16 kg (35.27 lbs)
- **Infinity C500**: approx. 7 kg (15.43 lbs)
- **GS500**: approx. 10 kg (22 lbs)
- **Babylog VN500 and Infinity C500**: approx. 25 kg (55.1 lbs)
- **Babylog VN500 and Infinity C500 on trolley**: approx. 59 kg (130 lbs)
- **Mounting:**
  - Supporting frame: approx. 1.65 kg (3.64 lbs)
  - Adapter for 38 mm pole: approx. 2.35 kg (5.18 lbs)

#### Infinity C500
- **Diagonal screen size**: 17”
- **TFT color touch screen**
- **Input / Output ports**
  - 3 external RS232 (9-pin) connectors
  - 4 USB ports (on the back panel)
  - 2 USB ports (one on each side panel)
  - 1 DVI for digital video output
  - 2 DVI (not used)
  - 2 RJ 45 Ethernet connectors

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