Dräger Babylog® VN500
Neonatal Open Care

For generations to come. The Babylog® VN500 combines Dräger’s years of experience with the latest technology. The result is a complete, integrated ventilation solution for the tiniest of patients. Move on toward new frontiers today and be prepared for the developments of tomorrow.
Benefits

**Configurable user interface and monitoring tools**
- Individual monitoring views that can be determined by the user
- Standardised, intuitive and user-friendly graphical user interface
- Online help including context-sensitive help functions
- Extended monitoring functions and smart data visualizations

**Decision-making tools that decrease cognitive workload**
- Smart Pulmonary View provides a graphical display of the compliance and resistance, including spontaneous breathing
- Trending, measured parameters, waveforms and loops

**Workstation functions**
- Configuration to suit your needs
- Downloadable screenshots for training, research and knowledge transfer
- Fast, standard configuration of all Babylog VN500 devices via USB
- Ability to connect the C500 Cockpit display to an overhead projector
- Several log export options to support learning and research

**Advanced respiratory care**
- HFOV including ‘sigh’ breaths for lung recruitment and Volume Guarantee
- Original Dräger leak adaptation and leak compensation technology to maintain sensitive triggering and volume targets
- PC-MMV can be used for weaning and promotes spontaneous breathing and automatically adapts support in line with patient needs
- Integrated non-invasive ventilation and high-flow oxygen therapy
Accessories

**Nasal prongs**

Nasal prong XS, Order-no. 8418415 (set of 10)
Nasal prong S, Order-no. 8418605 (set of 10)
Nasal prong M, Order-no. 8418416 (set of 10)
Nasal prong L, Order-no. 8418531 (set of 10)
Nasal prong XL, Order-no. 8418417 (set of 10)

**Neonatal Care Accessories**

Dräger accessories for neonatal ventilation and thermotherapy ventilate gently and effectively, reduce stress and help promote the development of the newborn with a wide range of accessories designed specifically for use with the smallest of patients.

**BabyFlow disposable**

Order-no. 8418583 (set of 20)
Related Products

Caleo®

The Caleo® provides an ideal microenvironment for neonates by delivering advanced thermoregulation parameters. The Caleo® was designed to offer intelligent accessibility and the nurturing power of developmental care. It brings ease of use and practical benefits to infants, caregivers and parents.
## Technical Data

### Patient type
- Neonatal and pediatric patients

### Ventilation settings

#### Ventilation modes
- Pressure-controlled ventilation:
  - PC-CMV
  - PC-AC
  - PC-SIMV
  - PC-PSV
  - PC-MMV
  - PC-HFO
  - PC-APRV

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

#### Enhancements
- Apnea ventilation
- Flow trigger
- Sigh
- Volume Guarantee (VG)
- Smart Pulmonary View
- Automatic Tube Compensation™ (ATC)
- AutoRelease (in PC-APRV)
- HFO-Sigh
- Volume Guarantee for HFO (HFO-VG)
- Leak Compensation
- $O_2$-therapy

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

#### Therapy types
- Invasive ventilation (Tube)
- Non-invasive ventilation (NIV)
- $O_2$-therapy

#### Respiratory rate (RR)
- 0.5 to 150/min

#### Inspiratory time (Ti)
- 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)
- Neonates 2 to 100 mL
- Pediatric patients 20 to 300 mL

#### Inspiratory flow (Flow)
- Neonates 2 to 30 L/min
- Pediatric patients 2 to 30 L/min

#### Tidal volume during Apnea Ventilation (VTapn)
- Neonates 2 to 100 mL
- Pediatric patients 20 to 300 mL

#### Respiratory rate during Apnea Ventilation (RRapn)
- 2 to 150/min

#### Inspiratory pressure (Pinsp)
- 1 to 80 mbar (or hPa or cmH$_2$O)

#### Inspiratory pressure limit (Pmax)
- 2 to 100 mbar (or hPa or cmH$_2$O)

#### Positive end-expiratory pressure (PEEP)
- 0 to 35 mbar (or hPa or cmH$_2$O)

#### Rise time for pressure support (Slope)
- Neonates 0 to 1.5 s
- Pediatric patients 0 to 2 s

#### $O_2$ concentration (FiO$_2$)
- 21 to 100 Vol%

#### Trigger sensitivity (Flow trigger)
- 0.2 to 5 L/min
## Technical Data

### Automatic Tube Compensation* (ATC)
- Inner diameter of the tube (Tube Ø)
  - Endotracheal tube (ET)
    - Pediatric patients 2 to 8 mm (0.08 to 0.31 in)
    - Neonates 2 to 5 mm (0.08 to 0.2 in)
  - Tracheostomy tube (Trach.)
    - Pediatric patients 2.5 to 8 mm (0.1 to 0.31 in)
  - Degree of compensation 0 to 100%

### High Frequency Oscillation (PC-HFO)
- 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) 5 to 90 mbar (or hPa or cmH₂O)
- Maximum pressure amplitude (Ampl hf max) in HFO (VG) 5 to 90 mbar (or hPa or cmH₂O)
- Tidal volume (VThf) 0.2 to 40 mL
- Sigh pressure (Psigh) 6 to 80 mbar (or hPa or cmH₂O)
- Respiratory rate of sigh (RRsigh) 0 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: full compensation active
- Off: trigger compensation active

### O₂-therapy
- Continuous Flow 2 to 50 L/min
- O₂ concentration FiO₂ 21 to 100 Vol%

### Displayed measured values
- Positive end-expiratory pressure (PEEP)
- Peak inspiratory pressure (PIP)
- Mean airway pressure (Pmean)
- Minimum airway pressure (Pmin)
- Lower pressure level in APRV (Plow)
- End-inspiratory pressure for mandatory breaths (EIP)
- Upper pressure level in APRV (Phigh)
- Range -60 to 120 mbar (or hPa or cmH₂O)

### Flow measurement (proximal)
- Expiratory minute volume (MVe)
- Inspiratory minute volume (MVI)
- Mandatory expiratory minute volume (MVemand)
- Spontaneous expiratory minute volume (MVspon)
- Spontaneous expiratory minute volume (MV)
- Range 0 to 30 L/min BTPS

## Tidal volume measurement
- Tidal volume (VT)
- Inspiratory tidal volume (not leakagecompensated) of mandatory breaths (VTimand)
- Expiratory tidal volume (not leakagecompensated) of mandatory breaths (VTemand)
- Inspiratory tidal volume (not leakagecompensated) of spontaneous breaths (VTispon)
- Range 0 to 1,000 mL BTPS
Technical Data

<table>
<thead>
<tr>
<th>Respiratory rate measurement</th>
<th>Mandatory respiratory rate (RRmand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous respiratory rate (RRspon)</td>
<td></td>
</tr>
<tr>
<td>Range 0 to 300/min</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>O₂ measurement (inspiratory side)</th>
<th>Inspiratory O₂ concentration (in dry air) (FiO₂)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range 18 to 100 Vol%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CO₂ measurement in mainstream (pediatric patients only)</th>
<th>End-expiratory CO₂ concentration (etCO₂)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range 0 to 100 mmHg</td>
<td></td>
</tr>
</tbody>
</table>

**Displayed calculated values**

<table>
<thead>
<tr>
<th>Compliance (C)</th>
<th>Range 0 to 650 mL/mbar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistance (R)</td>
<td>Range 0 to 1,000 mbar/(L/s)</td>
</tr>
<tr>
<td>Leakage minute volume (MVleak)</td>
<td>Range 0 to 30 L/min BTPS</td>
</tr>
<tr>
<td>Rapid Shallow Breathing (RSB)</td>
<td>Range Neonates 0 to 300 (/min/mL)</td>
</tr>
<tr>
<td></td>
<td>Range Pediatric patients 0 to 9999 (/min/L)</td>
</tr>
</tbody>
</table>

| Curve displays | Airway pressure Paw (t) -30 to 100 mbar Flow (t) -40 to 40 L/min Volume V (t) 2 to 300 mL CO₂ (t) 0 to 100 mmHg |

**Alarms/Monitoring**

<table>
<thead>
<tr>
<th>Expiratory minute volume (MVe)</th>
<th>High/Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airway pressure (Paw)</td>
<td>High/Low</td>
</tr>
<tr>
<td>Insp. O₂ concentration (FiO₂)</td>
<td>High/Low (automatic)</td>
</tr>
<tr>
<td>End-expiratory CO₂ concentration (etCO₂)</td>
<td>High/Low</td>
</tr>
<tr>
<td>Respiratory rate (RR)</td>
<td>High</td>
</tr>
<tr>
<td>Volume monitoring (VT)</td>
<td>Low (automatic)</td>
</tr>
<tr>
<td>Apnea alarm time (Tapn)</td>
<td>5 to 60 seconds, Off</td>
</tr>
<tr>
<td>Disconnect alarm delay time (Tdisconnect)</td>
<td>0 to 60 seconds</td>
</tr>
</tbody>
</table>

**Performance characteristics**

| Control principle | time-cycled, pressure-controlled, volume-constant |
| Inspiratory flow (BTPS) | max. 60 L/min |
| Base flow, neonates | 6 L/min |
| Base flow, pediatric patients | 3 L/min |

| Safety valve | Opens if medical compressed air supply fails (supply gas flow is not sufficient to provide the inspiratory flow required), enables spontaneous breathing with ambient air. |

**Endotracheal suction**

| Disconnection detection | automatic |
| Reconnection detection | automatic |
| Initial oxygen enrichment | max. 3 minutes |
| Active suction phase | max. 2 minutes |
| Final oxygen enrichment | max. 2 minutes |
| Oxygen enrichment for suction maneuver | Factor for neonates 1 to 2 |
| | Factor for pediatric patients 1 to 2 |

**Maneuver settings**

| Sigh pressure (ΔintPEEP) | 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 |
| Medication nebulization | for 5, 10, 15, 30 minutes |
| Control principle | time-cycled, pressure-controlled, volume-constant |
### Technical Data

**Inspiratory flow (BTPS)**

- Pediatric patients: 2 to 30 L/min
- Neonates: 2 to 30 L/min

**Operating data**

<table>
<thead>
<tr>
<th>Mains power supply</th>
<th>100 V to 240 V, 50/60 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current consumption</td>
<td></td>
</tr>
<tr>
<td>at 230 V</td>
<td>max. 1.4 A</td>
</tr>
<tr>
<td>at 230 V</td>
<td>max. 3.0 A</td>
</tr>
<tr>
<td>Inrush current</td>
<td>approx. 8 to 24 A peak</td>
</tr>
<tr>
<td></td>
<td>approx. 6 to 17 A quasi RMS</td>
</tr>
</tbody>
</table>

**Power consumption**

- Maximum during ventilation, without charging the battery: 300 W
- approx. 100 W ventilation unit with Medical Cockpit
- approx. 180 W with GS500

**Digital machine output**

- Digital output and input via an RS232 C interface Dräger MEDIBUS and MEDIBUS.X

**Gas supply**

- O₂ gauge pressure: 2.7 to 6.0 bar (or 270 to 600 kPa or 39 to 87 psi)
- Air gauge 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 and Infinity® C500: 420 mm x 685 mm x 410 mm (16.5 in x 27.0 in x 16.1 in)
- Babylog® VN500 and Infinity® C500 on trolley: 577 mm x 1,420 mm x 687 mm (22.7 in x 55.1 in x 26.7 in)

**Weight**

- Babylog® VN500 and Infinity® C500: approx. 25 kg (55.1 lbs)
- Babylog® VN500 and Infinity® C500 on trolley: approx. 59 kg (130 lbs)
- GS500: approx. 10.5 kg (23 lbs)
- PS500: approx. 27 kg (59.5 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:
  - RS232 (9-pin) connectors
  - USB ports for data collection
  - 1 DVI for digital video output
  - RJ 45 Ethernet connectors (service purposes only)

**ATC**, trademarked by Dräger. **AutoFlow**, trademarked by Dräger

BTPS – Body Temperature Pressure Saturated. Measured values relating to the conditions of the patient lung (98.6 °F), steamsaturated gas, ambient pressure.

1 mbar = 100 Pa

Some functionalities are available as an option.
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