

## Workstation Neonatal Care – Dräger Babylog® VN500

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

Patient type	Neonates and pediatric patients
<b>Ventilation settings</b>	
Ventilation modes	Pressure-controlled ventilation: <ul style="list-style-type: none"> <li>– PC-CMV</li> <li>– PC-AC</li> <li>– PC-SIMV</li> <li>– PC-PSV</li> <li>– PC-APRV (optional)</li> <li>– PC-HFO (optional)</li> <li>– PC-MMV (optional)</li> </ul> Support of spontaneous breathing: <ul style="list-style-type: none"> <li>– SPN-CPAP/PS</li> <li>– SPN-CPAP/VS (optional)</li> <li>– SPN-PPS (optional)</li> </ul>
Enhancements	<ul style="list-style-type: none"> <li>– Apnea ventilation</li> <li>– Flow trigger</li> <li>– Sigh function</li> <li>– Volume Guarantee (VG) (optional)</li> <li>– Automatic Tube Compensation (ATC) (optional)</li> <li>– PC-APRV with AutoRelease (optional)</li> <li>– HFO-Sigh (optional)</li> <li>– HFO-Volume Guarantee (HFO-VG) (optional)</li> </ul>
Special procedures	<ul style="list-style-type: none"> <li>– Suction maneuver</li> <li>– Manual inspiration/hold</li> <li>– Medication nebulization</li> </ul>
Therapy types	<ul style="list-style-type: none"> <li>– Invasive ventilation (Tube)</li> <li>– Non-invasive ventilation NIV</li> <li>– O<sub>2</sub> Therapy</li> </ul>
Ventilation frequency (RR)	0.5 to 150/min



The Babylog® VN500 with Infinity®  
Medical Cockpit™ C500

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 cmH <sub>2</sub> O)
Inspiratory pressure limit (Pmax)	2 to 100 mbar (or hPa or cmH <sub>2</sub> O)
PEEP / intermittent PEEP (intPEEP)	0 to 35 mbar (or hPa or cmH <sub>2</sub> O)
Rise time for pressure support (Slope)	Neonates 0 to 1.5 s Pediatric patients 0 to 2 s
O <sub>2</sub> concentration (FiO <sub>2</sub> )	21 to 100 Vol%
Trigger sensitivity (Flow trigger)	0.2 to 5 L/min
Airway Pressure Release Ventilation (PC-APRV) (optional)	<ul style="list-style-type: none"> <li>- Inspiratory time (Thigh) 0.1 to 30 s</li> <li>- Expiratory time (Tlow) 0.05 to 30 s</li> <li>- Tlow max: 0.05 to 30 s</li> <li>- Inspiratory pressure (Phigh) 1 to 80 mbar (or hPa or cmH<sub>2</sub>O)</li> <li>- Expiratory pressure (Plow) 0 to 35 mbar (or hPa or cmH<sub>2</sub>O)</li> <li>- Termination criterion (expiratory flow Exp. Term.) 1 to 80%</li> </ul>
Proportional Pressure Support (SPN-PPS) (optional)	<p>Flow Assist</p> <ul style="list-style-type: none"> <li>- Neonates 0 to 300 mbar/L/s (or hPa/L/s or cmH<sub>2</sub>O/L/s)</li> <li>- Pediatric patients 0 to 100 mbar/L/s (or hPa/L/s or cmH<sub>2</sub>O/L/s)</li> </ul> <p>Volume Assist</p> <ul style="list-style-type: none"> <li>- Neonates 0 to 4000 mbar/L (or hPa/L or cmH<sub>2</sub>O/L) corresponds to compliance compensation: 10000 to 0.5 mL/mbar (or mL/hPa or mL/cmH<sub>2</sub>O)</li> <li>- Pediatric patients 0 to 1000 mbar/L (or hPa/L or cmH<sub>2</sub>O/L) corresponds to compliance compensation: 10000 to 1 mL/mbar (or hPa/L or cmH<sub>2</sub>O/L)</li> </ul>
Automatic Tube Compensation (ATC) (optional)	<p>Inner tube diameter Tube Ø</p> <ul style="list-style-type: none"> <li>- 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)</li> <li>- Tracheostomy tube Trach. Pediatric patients 2.5 to 8 mm (0.1 to 0.31 inch)</li> </ul> <p>Degree of compensation 0 to 100%</p>
High Frequency Oscillation (PC-HFO) (optional)	<ul style="list-style-type: none"> <li>- Mean airway pressure (MAPhf) 5 to 50 mbar (or hPa or cmH<sub>2</sub>O)</li> <li>- Frequency of oscillation (fhf) 5 to 20 Hz</li> <li>- I to E (I:Ehf) 1:1 to 1:3</li> <li>- Pressure amplitude (Ampl hf) 1 to 90 mbar (or hPa or cmH<sub>2</sub>O)</li> <li>- Tidal volume (VThf) 0.2 to 40 mL</li> <li>- Sigh pressure (Psigh) 5 to 80 mbar (or hPa or cmH<sub>2</sub>O)</li> <li>- Respiratory rate of sigh (RRsigh) 1 to 30 /min</li> <li>- Sigh pressure rise time (Slope sigh) Pediatric patients 0 to 2 s Neonates 0 to 1.5 s</li> <li>- Sigh inspiratory time (Tisigh) 0.1 to 3 s</li> </ul>
Leakage compensation	<ul style="list-style-type: none"> <li>- On / Off</li> <li>- On: flow/volume correction and trigger adaptation</li> <li>- Off: trigger adaption</li> </ul>
O <sub>2</sub> Therapy	Continuous Flow (BTPS) 2 to 50 L/min O <sub>2</sub> concentration FiO <sub>2</sub> 21 to 100 Vol%
Maneuver settings	
Sigh	<p>Sigh pressure (ΔintPEEP) 0 to 20 mbar (or hPa or cmH<sub>2</sub>O)</p> <p>Time interval between sighs (Interval sigh) 20 s to 180 min</p> <p>Number of cycles for a sigh (Cycles sigh) 1 to 20 exhalations</p>

<b>Maneuver settings</b>	
Oxygen enrichment for suction maneuver	Actual FiO <sub>2</sub> 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	automatic
Reconnection detection	automatic
Initial oxygen enrichment	max. 3 minutes of increased FiO <sub>2</sub> (factor 100 to 200% of set FiO <sub>2</sub> )
Active suction phase	max. 2 minutes
Final oxygen enrichment	max. 2 minutes of increased FiO <sub>2</sub> (factor 100 to 200% of set FiO <sub>2</sub> )
<b>Measured values displayed</b>	
Airway pressure measurement	Plateau pressure (Pplat) Positive end-expiratory pressure (PEEP) Peak inspiratory pressure (PIP) 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 (ΔPhf) Range -60 to 120 mbar (or hPa or cmH <sub>2</sub> O)
Flow measurement (proximal)	Total minute volume (MV) Mandatory minute volume (MVmand) Spontaneous minute volume (MVspont) Range 0 to 99 L/min BTPS
Tidal volume measurement	Tidal volume (VT) Inspiratory tidal volume (not leakage compensated) of mandatory breaths (VTimand) Expiratory tidal volume (not leakage compensated) of mandatory breaths (VTemand) Inspiratory tidal volume (not leakage compensated) of spontaneous breaths (VTispon) Range 0 to 5500mL
Respiratory rate measurement	Respiratory rate (RR) Mandatory respiratory rate (RRmand) Spontaneous respiratory rate (RRspont) Range 0 to 300/min
O <sub>2</sub> measurement (inspiratory side)	Inspiratory O <sub>2</sub> concentration (FiO <sub>2</sub> ) Range 18 to 100 Vol%
CO <sub>2</sub> measurement in main flow	End-expiratory CO <sub>2</sub> concentration (etCO <sub>2</sub> ) Range 0 to 100 mmHg (or 0 to 13.2 Vol% or 0 to 13.3 kPa) Internal volume of CO <sub>2</sub> cuvette 5 mL
<b>Displayed calculated values</b>	
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 <sub>2</sub> O)
Resistance (R)	Range 0 to 1000 mbar/(L/s) (or hPa/(L/s) or cmH <sub>2</sub> O/(L/s))
Spontaneous portion of minute volume in percent (%MVspont)	Range 0 to 100%
Curve displays	Airway pressure (t) (Paw) -30 to 100 mbar (or hPa or cmH <sub>2</sub> O) Flow (t) -40 to 40 L/min Volume (t) (V) 2 to 300 mL CO <sub>2</sub> (t) 0 to 100 mmHg (or 0 to 15 Vol% or 0 to 13 kPa)
<b>Alarms / Monitoring</b>	
Expiratory minute volume (MV)	High / Low
Airway pressure (Paw)	High / Low
Insp. O <sub>2</sub> concentration (FiO <sub>2</sub> )	High / Low (automatic)
End-expiratory CO <sub>2</sub> concentration (etCO <sub>2</sub> )	High / Low
Respiratory rate (RR)	High
Volume monitoring (VT) (in VG or VS)	Low (automatic)
Apnea alarm time (Tapn)	5 to 60 seconds, Off
Disconnect alarm delay time (Tdisconnect)	0 to 60 seconds
<b>Performance data</b>	
Control principle	time-cycled, pressure-controlled, continuous flow
Inspiratory flow BTPS	max. 30 L/min
Base flow, neonates	6 L/min
Base flow, pediatric patients	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**

O <sub>2</sub> 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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**CORPORATE HEADQUARTERS**

Drägerwerk AG & Co. KGaA  
Moislinger Allee 53–55  
23558 Lübeck, Germany

www.draeger.com

**REGION EUROPE CENTRAL  
AND EUROPE NORTH**

Dräger Medical GmbH  
Moislinger Allee 53–55  
23558 Lübeck, Germany  
Tel +49 451 882 0  
Fax +49 451 882 2080  
info@draeger.com

**REGION MIDDLE EAST, AFRICA,  
CENTRAL AND SOUTH AMERICA**

Dräger Medical GmbH  
Branch Office Dubai  
Dubai Healthcare City, P.O. Box 505108  
Dubai, United Arab Emirates  
Tel + 971 436 24 762  
Fax + 971 436 24 761  
contactuae@draeger.com

**Manufacturer:**

Dräger Medical GmbH  
23542 Lübeck, Germany  
The quality management system at  
Dräger Medical GmbH is certified  
according to ISO 13485, ISO 9001  
and Annex II.3 of Directive 93/42/EEC  
(Medical devices).

**REGION EUROPE SOUTH**

Dräger Médical S.A.S.  
Parc de Haute  
Technologie d'Antony 2  
25, rue Georges Besse  
92182 Antony Cedex, France  
Tel +33 1 46 11 56 00  
Fax +33 1 40 96 97 20  
dlmfr-contact@draeger.com

**REGION ASIA / PACIFIC**

Dräger Medical  
South East Asia Pte Ltd  
25 International Business Park  
#04-27/29 German Centre  
Singapore 609916, Singapore  
Tel +65 6572 4388  
Fax +65 6572 4399  
asia.pacific@draeger.com