



The secret of harmonious breathing

BABYLOG® 8000 PLUS

## The product of expertise and experience

More than 40 years of experience in neonatal ventilation and a century of expertise in breathing technology have gone into Dräger's Babylog® 8000 plus. The result is a neonatal ventilator that satisfies the extremely high standards you set in caring for your little patients.

### Little patients, great demands

Artificial respiration is one of the most invasive procedures performed in neonatal intensive care. So it is particularly important that a ventilator adapts to your little patient's requirements, and not vice versa. The ultimate aim is to achieve a harmonious balance between patient and ventilator – where the ventilator not only adapts to the patient's needs but also protects the baby as much as possible from serious side effects such as volutrauma or atelectasis. Another major consideration from the moment ventilation begins is how to wean the baby off the ventilator. Here, the right balance is just as important. Weaning is enhanced through sensitive synchronization with spontaneous breathing, which in practice means adapting to interferences such as tube leaks while allowing the baby the maximum room to breathe.



# milestones in ventilation



## **Inner qualities not external trappings**

For decades Dräger has been supplying ground-breaking neonatal ventilators. Classic devices that have proved how invaluable they are thousands of times over in locations all around the world. The Babylog 8000 plus is no exception. Its qualities are not confined to functional form, clever design or any other external trappings. The Babylog 8000 plus stands for milestones in neonatal ventilation – inner qualities your little patient will benefit from. The optional Pressure Support and Volume Guarantee functions, for example, bring a new dimension to ventilation therapy and facilitate the process of weaning a baby off the ventilator. Both features contribute to this ventilator's most valuable asset – its ability to promote harmonious breathing.

# little patients, great demands

## The advantages of optimum ventilation

If you use a Babylog 8000 plus, you can rest assured you're giving the little patient in your care the best possible ventilation. Whatever mode you require – CPAP, IMV, triggered modes such as SIMV, SIPPV, Pressure Support Ventilation or Volume Guarantee – the Babylog 8000 plus meets the demands.

### SIMV and SIPPV – a new generation

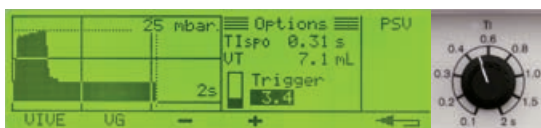
These well known synchronized ventilation modes have been optimized in the Babylog 8000 plus: A unique automatic leakage adaptation ensures sensitive and exact synchronization with the patient's inspiration – even in the event of changing tube leaks. Work of breathing is minimized and the need to manually adjust a trigger sensitivity has become a thing of the past.

### Pressure Support Ventilation – the leak adapted pressure support for neonates

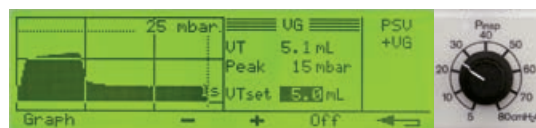
Pressure Support Ventilation (PSV) allows the infant more control over the respiratory pattern with synchronization at the end of inspiration, not just the beginning. It maintains the optimal inspiratory time for a given patient at a given time and automatically adjusts to changes in time constants. The inspiratory hold is eliminated and the chance of active

expiration against positive pressure is minimized. PSV allows the infant to breath as needed with pressure support being given throughout the breath. This is important in the prevention of atelectasis. PSV is a time cycled, pressure limited, synchronized mode with each spontaneous breath supported like in SIPPV.

A backup rate is set to maintain adequate support in case of apnea. The selected support pressure enables you to transfer the work of breathing from the ventilator to the patient and thus provide endurance training and shorten weaning time. Inspiration is ended when inspiratory flow declines to 15% of peak flow. A unique automatic leakage adaptation ensures sensitive and exact synchronization with the patient's inspiration and expiration even in the event of changing tube leaks. Leak adapted pressure support – the pressure support for neonates!



PSV – leak adapted synchronization with the patient's inspiration and expiration. Example: The set  $T_i$  is 0.5 seconds to allow the patient to breath. The actual Inspiration time is 0.3 seconds and will adapt to changes in time constants.



VG – delivery of consistent tidal volumes at lowest possible airway pressure. Example: The set  $P_{insp}$  is 25 mbar. The actual Peak pressure is 15 mbar, because this is sufficient to deliver the set  $V_t$  of 5.0 ml.



### Consistent Volume Guarantee

Pressure-controlled ventilation with continuous flow is now the standard in neonatal ventilation. Over the last few years, however, the measurement of tidal and minute volumes has also become an integral part of ventilation monitoring. Here, the goal is to ensure effective ventilation with a sufficient tidal volume while at the same time avoiding volutrauma. The Volume Guarantee (VG) provided by the Babylog 8000 plus combines the advantages of pressure-controlled ventilation while maintaining consistent tidal volumes. By continuing to ventilate with pressure control in SIMV, SIPPV or PSV modes, the Babylog 8000 plus delivers the tidal volume preset with the VG function.

This prevents overdistention and volutrauma due to surfactant treatment and other sudden changes of compliance or resistance. The peak airway pressure deployed by the ventilator varies between the clinician-set P<sub>insp</sub> and PEEP. During weaning the pressure level is automatically lowered, a variable spontaneous respiratory drive is compensated. The sophisticated software algorithm of the Volume Guarantee function is based on exhaled tidal volumes, therefore compensating for changing tube leakages. VG enhances your therapeutic possibilities and facilitates the weaning process.

### Advantageous BabyFlow® nasal CPAP

The BabyFlow nasal CPAP system designed for use with Babylog 8000 plus is easy to apply and supplies stable CPAP at low operating costs and minimal noise through the use of standard patient tubing and reusable parts. Its unique prong and mask design and innovative fixation accessories are designed to reduce the trauma associated with the delivery of nasal CPAP.

### High Frequency Ventilation

Despite the most sophisticated conventional ventilation strategy, there are a few situations that require a different approach. For such patients the Babylog 8000 plus offers the alternative of High Frequency Ventilation (HFV), which can be switched on at the touch of a button. This mode is fully integrated and can be run under CPAP or in combination with IMV. Even the tiny tidal volumes during HFV can be reliably measured and taken into account to fine-tune your settings. The HFV mode effectively removes CO<sub>2</sub>, which can be closely monitored using the DCO<sub>2</sub> value.



# intelligent operating concept

## The benefits of ergonomic design

An operating concept that is oriented to your needs as a user and a tailored monitoring system serve to optimize ventilation. This frees you from many onerous tasks usually associated with device operation so you can spend more time concentrating on your little patient.

### **Intelligent operating concept**

All key settings can be adjusted using just six rotary knobs with clear and accurate scaling. The integrated, high-contrast display shows you settings, measured values, trends and real-time curves and allows you to accurately fine-tune all parameters. LEDs and plain-text messages guide you on the ventilation mode currently in use. Intelligent alarms classified by priority inform you with plain-text messages of any problems and their causes so troubleshooting is easier and quicker. A log book stores up to 100 alarms, warnings and advisory messages giving time and date details so you can accurately carry out a post-analysis of any situation. Ergonomics in action.

### **Precision ventilation monitoring**

All key ventilation parameters are displayed and monitored by intelligent alarms. Alarm limits for pressures and oxygen concentration are automatically set and adjusted when settings are changed. Daily calibration of the oxygen cell also takes place

automatically – again leaving you more time for your little patient. The Babylog 8000 plus also provides you with graphic representations of pressure and flow curves as well as trends for the main ventilation parameters. Integrated lung function monitoring extends your diagnostic possibilities without the need for additional equipment. For each special ventilation mode offered the Babylog 8000 plus also has the required special monitoring.

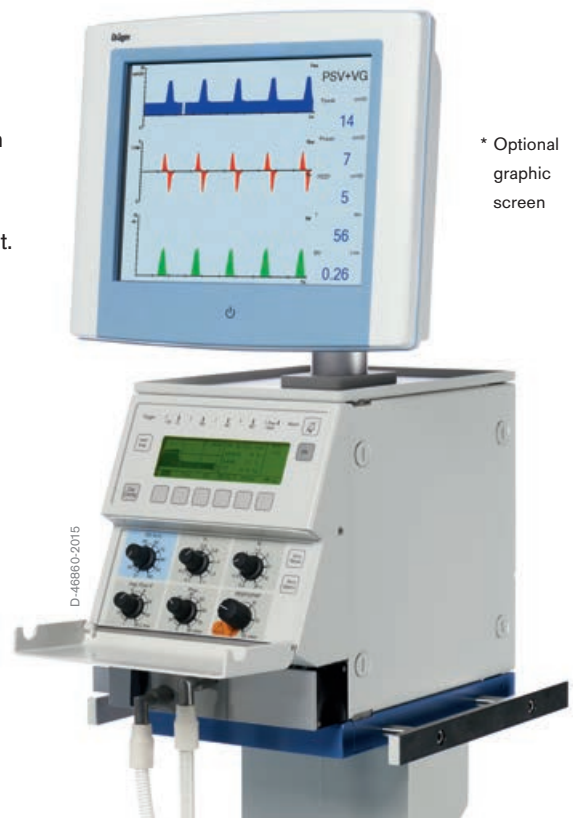
### **Sound economics**

The Babylog 8000 plus is an impressive operator in economic terms, so hospital administrators will be just as pleased with its running costs as you are with its performance. The modern operating concept and extensive documentation reduce the amount of initial training needed, gas-saving pneumatics minimizes oxygen consumption, and the integrated device software and modular design save time and money in service and maintenance.



**Safe investment**

The Babylog 8000 plus is a safe investment now and in the future because its future-oriented design enables new modes of ventilation to be retrofitted as they become available. This ventilator is also an efficient communicator with its hospital environment. When equipped with the BabyLink upgrade, the Babylog 8000 plus is an open system with a serial interface so there are no limits on the possibilities of on-going data processing – whether for documentation, monitoring or research purposes.



\* Optional graphic screen

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