

# pNeuton

## Pneumatic Transport Ventilation

### Integrated CPAP with Low Work of Breathing

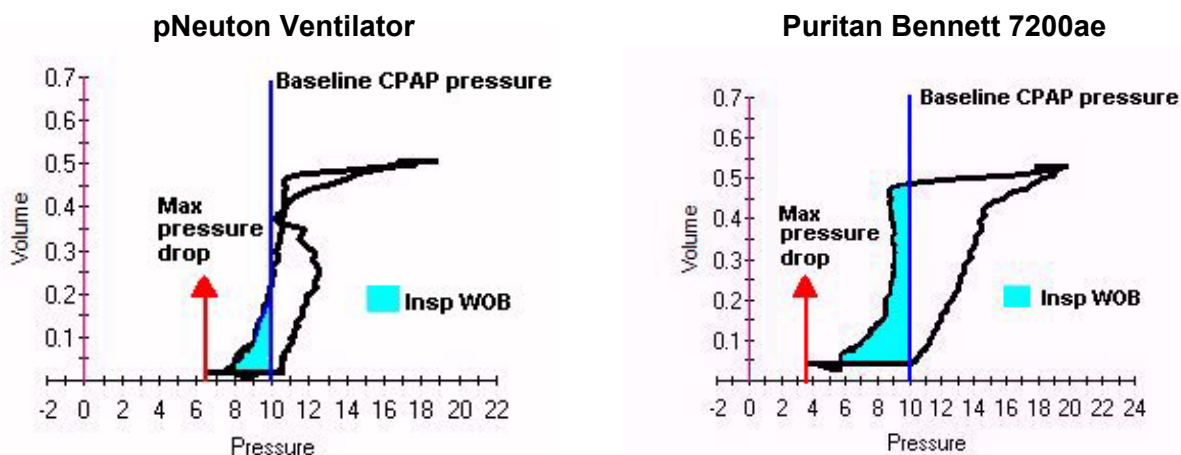
The pNeuton Ventilator has an integrated PEEP / CPAP system with these clinical advantages:

- One easy to operate calibrated control
- No additional valves in the patient circuit are required
- Trigger sensitivity automatically adjusts as you change the CPAP level
- Provides extremely low imposed work of breathing
- Noninvasive face masks or invasive endotracheal tube applications
- Delivers your choice of 100% or 65% oxygen
- Lightens your load, eliminates carrying extra CPAP / ventilator accessories

The key performance feature for a CPAP system measures how well it functions to meet patient demand. The additional patient effort to breathe through the circuit/ventilator system is known as imposed work of breathing (WOB). The higher the WOB, the more difficult it is for the patient to breathe spontaneously.

Traditional transport ventilators have very high WOB limiting spontaneous breathing. Their designs use high resistance demand valves or simple continuous flow systems which require more patient effort. In addition, these ventilators do not provide a choice between 65% and 100% oxygen for the spontaneous breaths. pNeuton is quite different.

In fact, pNeuton's WOB is comparable to many of today's large, expensive critical care ventilators. In laboratory testing, we have found the pNeuton's WOB to be essentially the same as the Puritan Bennett 7200ae ventilator. Using a lung model test system described by others<sup>1</sup> we measured WOB at a tidal volume of 500 ml, 50 L/min inspiratory flow, CPAP 10 cm H<sub>2</sub>O<sup>2</sup>. The measured WOB for pNeuton was 0.45 J, less than the 7200 which was 0.50 J. The graphs below show the pressure / volume loops for these breaths.



<sup>1</sup> Inspiratory Work and Airway Pressure with Continuous Positive Airway Pressure Delivery Systems. Chest 1985;84,519

<sup>2</sup> The lung compliance was 0.5 l/cm and the resistance was 5 cm/l/sec. The TTL was driven using a PB 840. The 7200 was in the CPAP mode, pressure-triggered at a sensitivity of 2 cm H<sub>2</sub>O