

# Reducing the Work of Breathing with Inspire nCPAP™

CareFusion cease production of Infant Flow™  
Distribution: International

The Infant Flow™ nasal CPAP device, a registered brand of CareFusion, was first introduced in 1994. It consisted of a driver and a generator, with the driver designed to deliver gas to the generator at a pre-set pressure, substantially higher than pressures delivered on a standard neonatal ventilator.

The novel fluidic pathway of the generator caused the gas to be jetted to the infant during the inspiratory phase, satisfying the peak flow requirement whilst maintaining a fixed stable CPAP pressure. Then at the start of expiration, the flow coming back from the infant changed the direction of the fresh gas enabling expiration to take place<sup>1</sup>.

This innovative technique known as the 'Coanda Effect' was the single unique feature of the original Infant Flow system differentiating it from traditional methods, significantly reducing the imposed Work of Breathing (iWOB) by working in harmony with the infant's own breathing cycle<sup>2</sup>. This allowed infants to be treated with non-invasive respiratory support as a therapy post-extubation or to prevent the need for mechanical ventilation.

CareFusion have recently ceased production of the original Infant Flow, replacing it with the Infant Flow™ LP system. It should be noted that the Infant Flow LP system does not adopt the same fluidic technology as the original Infant Flow system: bench test studies have shown that the iWOB is greater than the original.

The Inspire nCPAP™ from Inspiration Healthcare utilises low iWOB fluidic technology and ensures infants preserve their valuable energy. Inspire nCPAP is:

- Proven to be beneficial in supporting infants with respiratory problems
- Designed using proven fluidic principles to reduce the burden on newborn lungs

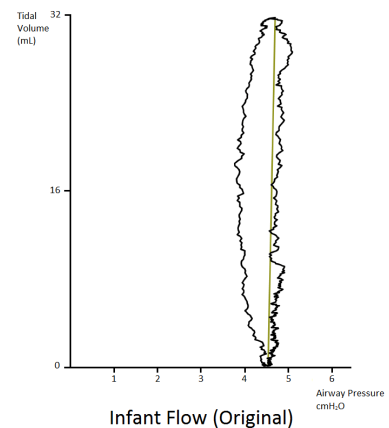


Figure 1: Pressure-volume loops from Infant Flow™ (Original) system at 4-5 cmH<sub>2</sub>O CPAP. Loops recorded for a single, simulated breath from a 3.4 kg healthy infant and large prongs<sup>3</sup>

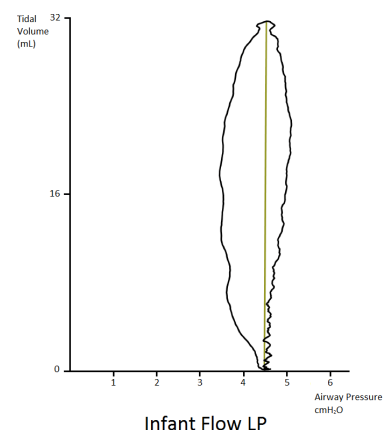


Figure 2: Pressure-volume loops from Infant Flow™ LP system at 4-5 cmH<sub>2</sub>O CPAP. Loops recorded for a single, simulated breath from a 3.4 kg healthy infant and large prongs<sup>3</sup>

- Available with and without patient delivery circuits for greater flexibility
- Compatible with an extensive range of prongs, masks, and bonnets for easy fixation to infants of all sizes

For further information about the Inspire nCPAP or any of the Inspiration Healthcare product range, please contact Inspiration Healthcare on +44 (0)1455 840 555 or [info@inspiration-healthcare.com](mailto:info@inspiration-healthcare.com).



1. Moa, G., Nilsson, K., Zetterstrom, H. & Jonsson, L. O. (1988) A new device for administration of nasal continuous positive airway pressure in the newborn: An experimental study. *Journal of Critical Care Medicine*, Vol 16(12), pp 1238-1242.  
 2. Klausner, J. F., Lee, A. & Hutchinson, A (1996) Decreased Imposed Work with a new Nasal Continuous Positive Airway Pressure Device. *Paediatric Pulmonology*, Vol 22(3), pp188-194.  
 3. Drevhammar, T. (2016) Performance of nCPAP Systems for Neonatal Use and Development of a New System for Infant Resuscitation. Phd thesis. Kaolinska Intitutet. Available: <https://openarchive.ki.se/xmlui/handle/10616/45205> (accessed 12 October 2016)