



Smother air flow for personalized ventilation

Add Heliox therapy to your Servo ventilator toolbox

More options to personalize the flow.

ICU professionals using Servo ventilators often tell us they value additions of new therapy options that are safe, easy to use and support advanced personalized ventilation. One example is obstructive lung diseases, such as exacerbated asthma, bronchiolitis or COPD, where additional targeted support may be required.



Helping patients breathe easier

To help these patients breathe easier, you now have the option to get Heliox therapy on selected Servo ventilators. Heliox is a mixture of helium and oxygen that, due to its low density, facilitates laminar flow and minimizes airway pressure. This helps reduce the work of breathing (WoB) of patients with obstructed airways, such as those with asthma or chronic obstructive pulmonary disease (COPD).³

Wide-ranging and safe use

Heliox therapy can be used on a wide range of patients – from newborns to adults and for all invasive and non-invasive ventilation (NIV) modes, as well as in High Flow therapy. In combination with the integrated Aerogen nebulizer, it is often used as an adjuvant treatment while waiting for the onset of conventional pharmacological treatments.

Examples of clinical benefits include:

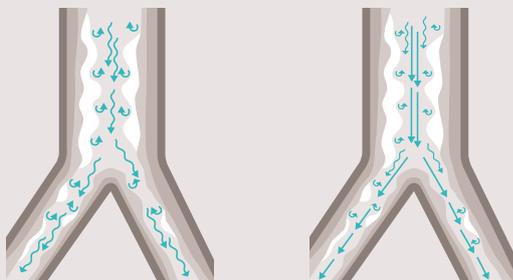
- **Reduction of airway resistance** Heliox reduces air flow resistance within the bronchial tree in patients with obstructive lung disease.^{1,2,3}
- **Reduction in the work of breathing** The low density of Heliox improves expiratory flow and decreases resistive work of breathing by converting density dependent turbulent air flow within the airways to laminar flow.³
- **Improved delivery of nebulized drugs** Heliox improves aerosol deposition, with up to 50% more drug delivered, primarily because helium's density is lower than air or oxygen. The lower density means less gas turbulence and less aerosol-particle-impaction loss in the tubing and patient airways.^{2,4,5,6}





The Heliox option is available on Servo-u, Servo-u MR and Servo-n* ventilators.

How Heliox therapy promotes better laminar flow with less turbulence.



Asthma airway:
Turbulent flow
breathing oxygen

Asthma airway:
Improved laminar flow
breathing Heliox

Adjunctive therapy for 70 years

Over the past 70 years, Heliox has been used as adjunctive therapy to overcome airflow-obstruction disorders, and been proven to be a safe therapy. Its low density makes it more fluid under conditions or turbulence, promoting a more laminar flow and helping patients to breathe more easily.

New personalized therapy option

The Heliox option can be integrated into your Servo ventilators to provide you with even more therapy options for more personalized ventilation. You can quickly and easily switch between air and Heliox during ventilation without going to standby, saving time and improving comfort for the patient.



Safe, reliable and easy to use

When switching gas from air and O₂ to Heliox and back, volume and CO₂ monitoring as well as flow delivery are adjusted automatically by the ventilator's Automatic Gas Identification. Heliox delivery is

confirmed by the presence of the "HeO₂" symbol on the screen. O₂ concentration is easily adjusted between 21% – 100% and information texts facilitate Heliox administration in every mode.

Cost-efficient approach

Your ability to wean patients with more options will support a better clinical result. In addition, the low gas consumption of Servo ventilators makes Heliox therapy cost effective to use. The Heliox therapy, can be added to your Servo-u, Servo-u MR or Servo-n* ventilators.

Key benefits of Heliox with Servo

- Minimizes airway resistance due to laminar flow
- Cost-efficient due to low gas consumption
- Can be combined with all ventilation modes, from invasive to NIV, High Flow therapy and nebulization
- Quick and easy to switch from Heliox to air and back during ventilation
- Adjustable O₂ concentration, 21% – 100%

* Not available in the neonatal patient category

Order information

For details regarding Heliox software, adapter kits, onsite upgrades, and other relevant information for Servo ventilators, please contact your local sales representative.

References

- 1 Leatherman JW. Mechanical ventilation for severe asthma. In: Tobin, MJ, ed. Principles and Practice of Mechanical Ventilation, 3rd ed. New York: McGraw-Hill; 2013.
- 2 Pilbeam SP, Barraza P, Raymond W, Timon B, Ivey C. Special techniques in ventilatory support. In: Pilbeam SP and Cairo JM ed. Mechanical Ventilation, 4th ed. St Louis: Elsevier; 2006: 321-327.
- 3 Herman J, Baram M. In the Midst of Turbulence, Heliox Kept Her Alive. Ann Am Thorac Soc. 2017.
- 4 Fink J; Opportunities and Risks of Using Heliox in Your Clinical Practice; Respir Care 2006;51(6):651– 660.
- 5 Bigham MT, Jacobs BR, Monaco MA et al; Helium/oxygen-driven albuterol nebulization in the management of children with status asthmaticus: a randomized, placebo-controlled trial; Pediatr Crit Care Med. 2010 May
- 6 Alcoforado L, Brandão S, Rattes C et al; Evaluation of lung function and deposition of aerosolized bronchodilators carried by heliox associated with positive expiratory pressure in stable asthmatics: a randomized clinical trial; Respir Med. 2013



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