





## SMART TECHNOLOGY TO ENSURE SATURATION

The first of its kind, the SAROS portable oxygen concentrator is a state of the art device designed to meet the rigors of military medical use. The SAROS fills the need for a safe, clinically-effective oxygen delivery solution, able to operate in rugged environments, and eliminate the alltoo complicated logistics of oxygen cylinder deliveries required to support combat casualty care in remote locations.

The SAROS delivers up to 3000 mL of oxygen per minute and up to 95% oxygen purity. The volume, timing of delivery in the first half of inspiration, and purity all contribute to effective oxygenation. The SAROS offers smart oxygen delivery technology ensuring effective oxygenation for your patient.

 $autoSAT^{\ensuremath{\oplus}}$  maintains a consistent bolus by automatically adjusting with increased breath rates

Body, Temperature and Pressure (BTP) flow comparison accounts for the differences in temperatures for more comfortable oxygen delivery

Adjustable Pulse Sensitivity technology ensures consistent timing of delivery

## AUTOSAT: CLINICALLY PROVEN OXYGEN DELIVERY

The SAROS' unique design includes CAIRE's proprietary autoSAT technology, which maintains a consistent pulse dose volume for every breath as the patient's respiratory rate changes.

- Designed to ensure the prescribed dosing is maintained throughout delivery.
- Proven to maintain a patient's mean oxygen saturation (SpO2) over 90%.<sup>1</sup>



1 A Comparative Study of 3 Portable Oxygen Concentrators During a 6-Minute Walk Test in Patients With Chronic Lung Disease Respir Care. LeBlanc C, Lavallee L, King J, Taylor- Sussex R, Woolnough A and McKim D. 2013;58(10):1598 –1605.



## **BODY, TEMPERATURE AND PRESSURE (BTP) FLOW COMPARISON**

SAROS delivers oxygen by accounting for the difference between ambient conditions and those found in a patient's lungs for a more comfortable, efficacious oxygen delivery.

- Lung temperature standard at 37°C / 98.6°F vs. ambient conditions.
- If the ambient temperature is higher than 98.6°F, the flow will be reduced to ensure that within the cooler patients' lungs, the flow will be correct.
- If the ambient temperature is lower than 98.6°F, the flow will increase to compensate for a colder, denser delivery to a lighter, warmer lung temperature.

## **ADJUSTABLE PULSE SENSITIVITY**

Adjustable Pulse Sensitivity allows the pulse trigger to be adjusted to provide fast, reliable oxygen delivery in the "golden third" of inhalation with the most advanced trigger sensitivity on the market.

- · Allows pulse mode to be used by a wider variety of patients more comfortably.
- · Patients with weak inspiratory effort can use a more sensitive setting.

The first phase of a patient's inhalation is the most important for gaseous exchange in the alveoli—the "golden third" of inhalation. Ultra-sensitivity is the key to proper oxygen delivery within this phase. If the oxygen is delayed, it misses the target zone, impeding oxygen absorption and gaseous exchange in the lungs, which may cause the patient to desaturate.<sup>2</sup>



Volume / Time Curve

The volume/time curve shown above represents the typical ventilation cycle. At 20 breaths per minute and a 1:2 ratio of inhalation to expiration, the duration of each breath is three seconds, with one second for inhalation. Approximately .5 seconds is required for dead-space, which allows only .5 seconds as early inhalation. Note: alveolar exchange represents only one-sixth of the ventilatory cycle.

2 Effect of the Anatomic Reservoir on Low-Flow Oxygen Delivery Via Nasal Cannula: Constant Flow Versus Pulse Flow With Portable Oxygen Concentrator. Steven Zhou and Robert Chatburn. Respir Care 2014;59(8):1199 –1209.







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