

# O<sub>2</sub>matic PRO: automated closed-loop oxygen therapy

The O<sub>2</sub>matic PRO is a novel medical device that brings oxygen treatment to a new level. The technology was developed in close cooperation with four hospitals in Denmark and is demonstrated to quickly stabilise arterial oxygen saturation in patients suffering from conditions that can lead to respiratory distress<sup>(1,2)</sup>.

The O<sub>2</sub>matic PRO solves the issue of the labour-intensive titration of oxygen flow rates associated with the current manual apparatus. Oxygen flow is automatically titrated responding to real-time arterial oxygen saturation (SpO<sub>2</sub>) as measured by pulse oximetry. The O<sub>2</sub>matic PRO controls the dose of oxygen administered to the patient to maintain the SpO<sub>2</sub> within a prescribed target range; hence reducing patient-nurse exposure times.

Supplemental oxygen therapy is central to the treatment of respiratory insufficiency caused by a variety of acute and chronic diseases. A clinical study conducted with the use of the O<sub>2</sub>matic PRO on patients suffering chronic pulmonary diseases demonstrated its ability to keep oxygen saturation within a prescribed bracket with the use of its unique algorithm<sup>(1)</sup>. It shows that the O<sub>2</sub>matic PRO maintains the oxygen saturation within the specified range 85% of the time, in contrast to 47% achieved by the conventional practice, while decreasing episodes of hypoxemia<sup>(1)</sup>. Another study conducted on admitted patients of the 2020 global pandemic demonstrated similar results. Using the O<sub>2</sub>matic PRO, medical staff were able to maintain patient oxygen saturation within the prescribed bracket 83% of the time<sup>(2)</sup>.

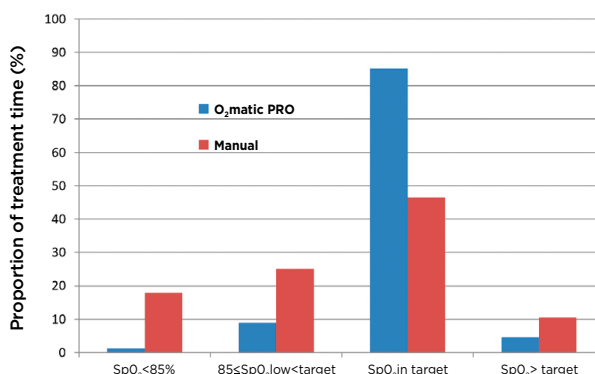
## Key benefits of closed-loop oxygen therapy:

- Improving patients' time within the target SpO<sub>2</sub> levels<sup>(1,2)</sup> hence reducing mortality rates<sup>(3)</sup>.
- Reducing oxygen consumption by up to 50%<sup>(4)</sup>.
- Faster weaning from oxygen and reducing length of stay<sup>(5)</sup>.
- Reduction in costs of care<sup>(6)</sup> and patient-nurse exposure times.

Automatic closed-loop oxygen therapy has been the subject of many more clinical studies with promising outcomes. To request a summary of clinical studies and technical features, please visit our website [www.boc.com.au/o2matic](http://www.boc.com.au/o2matic).



## Patient arterial oxygen saturation levels during oxygen treatment



The O<sub>2</sub>matic PRO maintains the oxygen saturation within the specified range 85% of the time in contrast to 47% achieved by the conventional practice in patients with chronic respiratory disease<sup>(1)</sup>.

## References

1. Automated oxygen control with O2matic® during admission with exacerbation of COPD. Hansen, Ejvind Frausing, et al. 13, s.l. : International Journal of Chronic Obstructive Pulmonary Disease, 2018, Vol. 14, pp. 3997-4003.
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4. Autonomous control of inspired oxygen concentration during mechanical ventilation of the critically injured trauma patient. Jay A, Johannigman, et al. 2, s.l. : J Trauma, Feb 2009, Vol. 66, pp. 386-392.
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6. Cost-effectiveness of FreeO2 in patients with chronic obstructive pulmonary disease hospitalised for acute exacerbations: analysis of a pilot study in Quebec. TG, Poder, et al. 1, s.l. : BMJ Open, Jan 2018, 8(1):e018835.



The O<sub>2</sub>matic PRO device easily connects to existing oxygen wall outlets or oxygen cylinders.

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O<sub>2</sub>matic

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