



# A simple solution for your complex patients

The market-leading servo ventilation device – **System One BiPAP autoSV Advanced** – simplifies treating complex sleep-disordered breathing patients

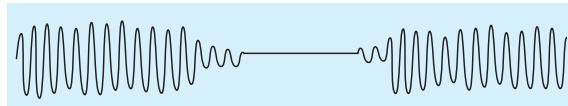
**PHILIPS**

RESPIRONICS

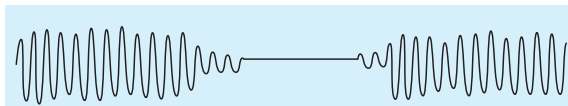
# Developed for your most challenging patients

Complex Sleep Apnea is a combination of Obstructive Sleep Apnea (OSA) and Central Sleep Apnea. It occurs when a patient being treated for OSA develops Central Sleep Apnea during the application of Continuous Positive Airway Pressure (CPAP).

Airflow

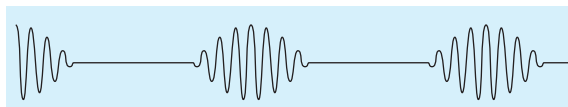


Effort

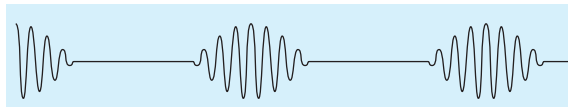


50 percent of heart failure patients display sleep-disordered breathing in the form of Cheyne-Stokes Respiration (CSR)<sup>4</sup> – a periodic breathing disorder characterized by an alternating pattern of waxing and waning tidal volumes during periods of central apnea or hypopnea along with deep, rapid breathing (hyperventilation).

Airflow



Effort



BiPAP autoSV Advanced was specifically designed to treat these conditions and, with improved real-time access to patient's data, to monitor medical stability in these complex patients. BiPAP autoSV Advanced unifies sophisticated Philips Respironics technologies – such as Digital Auto-Trak and the REMstar Auto titration algorithm – to assure that with each and every breath, the patient is appropriately ventilated.



## BiPAP autoSV Advanced features:

- Clinically-proven Servo Ventilation algorithm
- Auto EPAP for a patient's changing needs
- Real-time access to patient data via modems
- Improved humidity output and control
- System One resistance control
- Bi-Flex for comfort
- Encore data management and reporting
- New patient waveform reports
- 15mm tubing option
- Intuitive patient controls
- Smaller and quieter design
- Assembled in USA
- Heated tube option available

1 Morganthaler, et al. SLEEP 2006;29(9):1203-1209.

2 Artz M, et al. Effects of Dynamic Bilevel Positive Airway Pressure Support on Central Sleep Apnea in Men with Heart Failure. Chest 2008;134:61-66.

3 Wells Fargo Securities, LLC Q3 2010 Sleep Center Survey.

4 Javaheri, T. J. et al. Sleep Apnea in 81 Ambulatory Male Patients with Stable Heart Failure: Types and Prevalences, Consequences, and Presentations. Circulation, 1998;97:2154-2159.

5 Artz M. et al.

6 Kasai, T. et al.; CIRC Heart Fail 2010;3:140-148.

The uses described in the information have not been approved or cleared by the FDA.



The BiPAP autoSV Advanced is just one more way we are working with you as Allies in Better Sleep and Breathing.

# Making the complex simpler to manage

What if you could easily and effectively treat your most complicated sleep-disordered breathing (SDB) patients – stay connected to them at home as their needs change, and improve your at-home management to positively impact long-term compliance?

Up to 20 percent of your current SDB population already consists of complicated patients that present with disease states like Complex Sleep Apneas (CSA), Central Apneas (CA), Mixed Sleep Apneas or those who suffer with Periodic Breathing, such as Cheyne-Stokes Respiration (CSR).<sup>1</sup> These complicated patients could benefit from specialized Servo-Ventilation (SV) treatment.<sup>2</sup> A recent Sleep Center survey reports that approximately 68 percent of these complex patients are now being treated with servo ventilators<sup>3</sup> and those numbers are likely to grow as older technologies are replaced.

BiPAP autoSV Advanced was specifically designed and clinically validated to give you the peace of mind to not only treat these worrisome patients, but the ability to manage their future needs in an effective and cost-efficient manner.



- Improved real time access to patient's data provides doctors and home healthcare providers with daily patient usage, compliance and efficacy data to help assess the success of treatment.
- Clinically proven algorithms, including the innovative Auto EPAP, continually monitor and adjust to a patient's changing therapy needs.
- Demonstrated Bi-Flex technology enhances patient comfort for long-term efficacy.



# Easy and efficient patient management

The BiPAP autoSV Advanced incorporates more device intelligence so that you can make the most informed and timely decisions for your patients. By combining the proven autoSV Advanced algorithm with the System One platform, the BiPAP autoSV Advanced:

- Monitors sleep assessment parameters – including AHI, leak, and flow limitation – to provide optimum feedback for your most complicated patients.
- Provides detailed patient-flow waveform data, and is able to recognize indicators beyond classic OSA symptoms.
- Provides valuable information in real time with the addition of the modem options to simplify patient management.

- Incorporates our state-of-the-art Encore patient data management and reporting system to automatically gather vital patient information through a secured-access website available via any computer.

The BiPAP autoSV Advanced puts timely, accurate patient information at your fingertips, allowing you to instantly change prescriptions or communicate as necessary. The intelligence is easily accessible and can be collected through wireless modems for remote access, helping to link a team of clinicians in separate locations together.

# Patient comfort sits at the core of compliance

BiPAP autoSV Advanced delivers comfortable therapy through an advanced humidification system. Our humidity-control technology analyzes ambient temperature, relative humidity and patient flow to provide the most comfortable therapy to the patient.

In addition, Bi-Flex pressure relief technology makes it easier and more natural for patients who have difficulty adjusting or sustaining therapy. This pioneering technology offers pressure relief at inhalation and exhalation to make bi-level therapy more like natural breathing for the patient.



# Simplifying patient care

Sometimes a complex problem really can have a simple answer. Thanks to sophisticated clinically-proven technologies, BiPAP autoSV Advanced makes patient management nearly automatic and provides optimal therapy for even your most complicated sleep-disordered breathing cases. Here's how BiPAP autoSV Advanced takes on some of the most common challenges of managing your complicated patients.

## BiPAP autoSV Advanced

### Challenge

### Solution: System One

#### Obstructive component

Complex cases of sleep-disordered breathing present with varying degrees of obstructive versus central components. Maintaining a patent airway is vital, but oftentimes very difficult, making for particularly challenging titrations.

#### Auto EPAP

- Automatically distinguishes between obstructed and clear airway apneas
- Increases EPAP only when necessary to maintain a patent airway
- Automatic adjustment of EPAP simplifies titration and achieves proven efficacy at the minimum pressure levels
- Adapts pressure to your patients' needs as their conditions change (e.g., weight, alcohol use, medication, lifestyle)

#### Central component

In the presence of central apneas, it is important for the patient to receive sufficient ventilation while still allowing natural pauses in breathing. Care must be taken not to over- or under-ventilate a patient with central apnea.

#### Advanced back-up rate

- Timing of the back-up breath delivery is calculated to encourage spontaneous breathing at the patient's own natural rate as necessary
- Clinically-proven technology assures therapy is highly synchronous with the patient's spontaneous breathing
- Delivery of automatically calculated back-up breaths has been shown to be effective on a wide variety of complicated sleep-disordered breathing patients

#### Unstable breathing

Patients with more complex sleep apnea conditions often demonstrate irregular and unstable breathing patterns. Standard CPAP or bi-level therapies were not designed to treat these patients.

#### Servo ventilation (SV) algorithm

- Clinically-proven<sup>5</sup> SV algorithm monitors peak flow and changes pressure support breath by breath to stabilize the breathing pattern
- By establishing a targeted peak flow, the SV algorithm can rapidly normalize unstable breathing patterns with quick adjustments of pressure support

#### Patient comfort and compliance

Therapy is only effective if the patient uses it consistently. Unfortunately, exhaling against pressure can be very difficult for many patients.

#### Bi-Flex technology

- Clinically-proven<sup>6</sup> way to enhance patient comfort and compliance
- Provides pressure relief during exhalation and at the critical transition points from exhalation to inhalation and back to exhalation
- Makes it easier and more natural for those having difficulty adjusting or adhering to therapy

#### Patient management

Complex patients' needs may change over time. Stay connected to them easily and efficiently.

#### Patient reporting

- Encore Anywhere patient compliance management system
- SleepMapper self-management system
- Patient flow waveform reports
- SD, Bluetooth or wireless modems

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