

PORTI[®] SLEEP DOC

Sleep diagnostics systems



PORTI® SLEEP DOC

DeVilbiss Healthcare introduces the SleepDoc Porti diagnostics systems powered by the technology and expertise of Dr Fenyves und Gut.

From a 5 channel respiratory screener up to a full 38 channel polysomnograph the Porti systems are ideal for home or hospital use. They are inexpensive to use due to the low cost of consumables and use the same analysis and reporting software for all devices. The Porti range is the ideal solution for the developing sleep service.

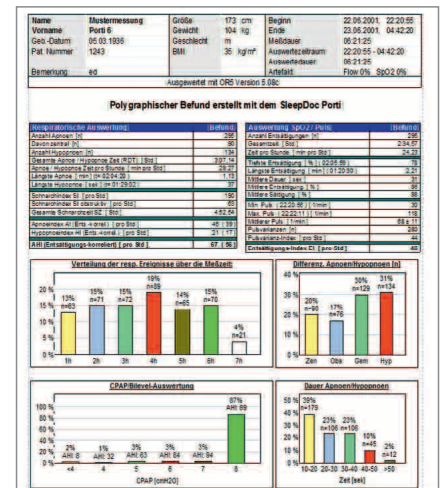
Porti Family Features:

- Low running costs due to inexpensive consumables
- Optional extended warranty through our regular service program
- Built in rechargeable battery to ensure low running costs
- Simple to operate for both patients and clinical staff
- Unique thorax and abdomen belt technology using robust accurate pressure sensors, thus removing the need for expensive specialist belts
- Removable pressure sensors in the belts, which allows them to be effectively cleaned (machine washable)
- Internal battery charges fully in 2 hours – a fully charged battery will record for 16 hours

Software Features

The analysis and reporting software is extremely comprehensive, yet easy to understand. Its flexibility, allowing the user to determine the parameters, the content and design of the reports means the software can be customised to fit the needs of the sleep laboratory.

- All SleepDoc Porti systems use the same software, consumables and sensors
- Quick evaluation of reports and data
- Fully automatic evaluation, diagnosis and report generation
- Manual editing options
- Easy configuration of raw data and final reports
- Flexible parameter control for the clinician
- Quick and easy report generator
- Integration into network
- Option for data to be sent by e-mail
- Data import and export via the internet



Complete automatic report generation.

MiniPorti

The SleepDoc Mini Porti is the first in the range of respiratory screeners from Dr Fenyves und Gut. It is ideal for home or hospital use and for those physicians that require more than simple pulse oximetry. It has five channels measuring the following:



| Channels | Method |
|------------------------------------|--|
| Flow | Using flow prongs or directly from the patient CPAP interface. |
| Oxygen Saturation SpO ₂ | Using a HP Finger Sensor |
| Pulse | Using a HP Finger Sensor |
| Snoring | The built in microphone detects sound via the flow prongs |
| CPAP / BiPAP | Absolute pressure is obtained using an integrated pressure sensor which can be connected directly to the patient CPAP interface or tubing. |

Porti 7

The Porti 7 is an ideal diagnostic tool for the identification of sleep disordered breathing, for use at home or in hospital. It comes as standard with 10 channels, but with the option of extending up to 24 channels. Porti 7 additional features include:

- Fast direct download via USB connection.
- No memory card required, all patient data is stored in the internal memory.
- Visual battery check on front of unit. LED's show the remaining battery life.
- No ON/OFF switch, uses an automatic start via programming in the Porti software. Can program up to 6 nights of start/finish times.



| Channels | Method |
|------------------------------------|--|
| Flow | Using flow prongs or directly from the patient CPAP interface |
| Oxygen Saturation SpO ₂ | Using an HP Finger Sensor |
| Pulse | Using an HP Finger Sensor |
| Pulse Wave | Using an HP Finger Sensor |
| Snoring | The built in microphone detects sound via the flow prongs |
| CPAP / BiPAP | Absolute pressure is obtained using an integrated pressure sensor which can be connected directly to the patient CPAP interface or tubing. |
| Thorax | Effort belt with removable / integrated pressure sensors |
| Abdomen | Effort belt with removable / integrated pressure sensors |
| Ambient Light | The internal light sensor allows continuous monitoring of brightness of the sleeping environment. |
| Body Position | Using an integrated magnetic sensor (5 positions) |

| Optional Channels | Method |
|---------------------------------|---|
| Restless Leg | Using a Piezo pressure sensor |
| ECC | One channel lead via adhesive electrodes. Resolution up to 200Hz |
| Pulse Transit Time (PTT) | Calculated by using Pulse and ECC channels |
| Systolic Blood Pressure (RRsys) | Continuous recording of systolic blood pressure without additional sensors (PTT required) |
| Thermistor | An alternative method of measuring flow. |
| NeuroPort | For automatic sleep staging |
| 8 x External Analogue Channels | External box with voltage input for up to 8 external channels with galvanic separation |



Porti 8

The Porti 8 is a modular system that caters for all; it may be used as a simple ambulatory screening device to a complete polysomnography application with up to 38 channels. With its small ergonomic profile the Porti 8 has been designed for optimum patient comfort and can be easily applied by the patient. The channels that are recorded by the Porti 8 are:



| Channels | Method |
|------------------------------------|--|
| Flow | Using flow prongs or directly from the patient CPAP interface |
| Oxygen Saturation SpO ₂ | Using an HP finger sensor |
| Pulse Frequency | Using an HP finger sensor |
| Pulse Wave | Using an HP finger sensor |
| Snoring | The built in microphone detects sound via the flow prongs |
| CPAP / BiPAP | Absolute pressure is obtained using an integrated pressure sensor which can be connected directly to the patient CPAP interface or tubing. |
| Thorax | Effort belt with removable / integrated pressure sensors |
| Abdomen | Effort belt with removable / integrated pressure sensors |
| Body Position | Using an integrated magnetic sensor |
| Light Sensor | The internal light sensor allows continuous monitoring of the brightness of the sleeping environment. |

| Optional Channels | Method |
|---------------------------------|---|
| 2 x Leg Movement (EMG) | Separate recordings for right and left legs is possible |
| 6 x ECG | Six channel lead via adhesive electrodes. Resolution up to 200 Hz |
| Pulse Transit Time (PTT) | Calculated by using Pulse and ECG channels |
| Systolic Blood Pressure (RRsys) | Continuous recording of systolic blood pressure without additional sensors (PTT required) |
| NeuroPort | Special electrode for frontal lead with fully automatic sleep staging |
| 6 x EEG | Six channel lead via adhesive electrodes. |
| 2 x EOG | Two channel lead for eye movement (both eyes) using adhesive electrodes |
| 1 x EMG | One channel lead of muscular movement from chin |
| 8 x External Channels | External box with voltage input for up to 8 external channels with galvanic separation |
| Audio / Video | |



Thorax belt with two removable pressure pads



Inexpensive flow sensor for recording respiration and snoring



The reusable HP SpO₂ sensor finger cuff is durable and comfortable for the patient



Robust, colour coded connectors



ECG leads



SPECIFICATIONS

Dimensions (H x W x D)

| | |
|-----------|----------------------|
| MiniPorti | 30.5 x 62.7 x 140 mm |
| Porti 7 | 30.5 x 62.7 x 140 mm |
| Porti 8 | 35 x 75 x 168 mm |

Weight (including battery)

| | |
|-----------|-------|
| MiniPorti | 155 g |
| Porti 7 | 160 g |
| Porti 8 | 260 g |

Storage medium

| | |
|-----------|-----------------------|
| MiniPorti | MultiMedia Card |
| Porti 7 | Internal Flash memory |
| Porti 8 | Internal Flash memory |

Storage capacity

up to 30 hours; depending on Settings

Measurement range SpO₂

99% to 80% (± 2%) / 79% to 60% (± 4%)

Measurement range Pulse

501/min- 150 1/min (± 2%)

Power supply

| | |
|-----------|------------------------------|
| MiniPorti | NiMH battery 3.6 V / 950 mAh |
| Porti 7 | 3 V Li-ION Battery |
| Porti 8 | 3 V Li-ION Battery |

Temperature range +15° C to +45° C

Humidity 60% to 80%

Fault indicator 2 LEDs (front)

Comparison chart of the Porti devices

| Channels | MiniPorti | Porti 7 | Porti 8 |
|--|-----------|---------|---------|
| Flow (using a flow prong, even during CPAP therapy) | ■ | ■ | ■ |
| Flow (by means of thermistor) | ✘ | □ | □ |
| Oxygen saturation SpO ₂ | □ | ■ | ■ |
| Pulse | □ | ■ | ■ |
| Thorax effort (sensor integrated in chest strap) | ✘ | ■ | ■ |
| Abdomen effort | ✘ | ■ | ■ |
| Obstruction and phase shift | ✘ | ■ | ■ |
| Snoring (microphone integrated in the basic unit) | ■ | ■ | ■ |
| Position (magnetic sensor in the instrument) | ✘ | ■ | ■ |
| CPAP / BIPAP (to obtain absolute pressure during CPAP therapy) | ■ | ■ | ■ |
| Neuroport (EEG, automatic sleeping stage classification) | ✘ | □ | □ |
| Leg movement (Restless leg, single or double) | ✘ | □ | □ |
| ECG (resolution up to 200 Hz) and central heart frequency | ✘ | □ | □ |
| PTT Pulse Transit Time | ✘ | □ | □ |
| Systolic Blood Pressure | ✘ | □ | □ |
| Interface for external Analog Input | ✘ | □ | □ |
| Neurology (6 x EEG, 2 x EOG, Chin EMG) | ✘ | ✘ | □ |
| Pulse wave (Plethysmogram) | ✘ | ■ | ■ |
| Ambient light | ✘ | ■ | ■ |
| Video interface (Online measurements) | ■ | ■ | ■ |

■ Available in the unit □ Available as an option ✘ Not available

PC System Requirements: PC with Pentium processor or higher · Microsoft Windows 98 SE/ME/NT/2000/XP/ Vista · Hard disk with at least 100 MB free storage · CD-drive · Mouse · Free serial port or USB port · Printer