Nasal Airflow Pressure and Snore Transducer

CLEANING & MAINTENANCE

The BiNAPS device is reusable and must be cleaned between patients.
1. Wipe the outside surface of the BiNAPS with a damp cloth and mild detergent, or an approved disinfectant. Refer to the table below. Follow the manufacturer's instructions for use and recommended exposure time.
2. DO NOT immerse or soak the BiNAPS device in liquid.
3. DO NOT sterilize.
4. Ensure devices are completely dry before reusing.
5. Salter Labs sleep diagnostic cannulas are disposable and for single-patient use. Do not clean or sterilize or re-use.

Intermediate-Level Disinfectants

Disinfectant Solutions	Brand Name (Examples)
55%-70% Isopropyl alcohol	Super Sani-Cloth Wipes; CavaWipe Cloths
10% household bleach solution	Sani-Cloth® Bleach Disposable Wipes; Diluted household bleach

PRODUCT SPECIFICATIONS

Sensor Technology .... Piezo Pressure Transducer
Output Types .... Airflow & Snore
Size .... 2.26 in X 1.37 in X .68 in
Weight .... 30 grams
Power Source .... None required
Output Connectors .... 1.5 mm Safety
Airflow Sensor Cannula Input Connector .... Female luer lock
Input Pressure Range .... ± 25 cm H_2O
Signal Output Levels (Typical) .... 1000 μV peak to peak
Operating Temperature .... 5º C (40º F) to 40º C (104º F)
Storage Temperature .... 5º C (40º F) to 40º C (104º F)
Operating/Storage Humidity .... 15 - 95% Non-condensing
Test Lead Recepticle .... 1.5 mm Plug (Male)

WARRANTY

Salter Labs warrants this product to be free from defects in materials and workmanship as long as used with **Salter Labs** cannulas. **Salter Labs cannulas must be used to protect the BiNAPS Lifetime Warranty.** Should the BiNAPS module fail prematurely, the sole liability of **Salter Labs** is limited to repair or replacement of the product with no charge for parts or labor. Under no circumstances shall **Salter Labs** be liable for any loss or damage, direct, incidental or consequential, including property damage or personal injury arising form the use of or the inability to use the product. This warranty is rendered void and Salter Labs cannot be held liable for conditions resulting from damage, marginal performance, or malfunctions caused by: misuse, abuse, neglect, improper line voltage, power fluctuations or any adverse environmental conditions, tampering, unauthorized modifications, adjustment or repair to the product or its accessories. This warranty is in lieu of all other warranties, expressed or implied and is extended only to the original purchaser. IMPORTANT NOTICE: The use on non-Salter Labs cannulas will void the warranty.

Features and specifications are subject to change without notice.

⧉ SALTER LABS ®

BiNAPS®

Nasal Airflow Pressure and Snore Transducer

User Manual

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INTENDED USE

The Salter Labs BiNAPS ® Airflow Pressure Transducer is an accessory intended for use with polysomnography equipment during sleep disorder studies for the purpose of detecting and amplifying breathing signals and detection of snoring of a sleeping patient though a Salter Labs nasal cannula.

This device is intended to be set-up and maintained by credentialed sleep lab technicians or qualified medical personnel.

Clinical Benefit: The BiNAPS detects aiflow and snoring via a nasal pressure to monitor patients breathing patterns

PACKAGE CONTENT

- BiNAPS Sensor module, Model 5500
- Sensor cannula sample pack (1 adult oral - nasal cannula #5001 (with Filter), 1 adult nasal cannula #5011 (with Filter), 1 adult divided nasal cannula #5018, 1 pediatric oral - nasal cannula #5023)
- User's Manual, Part No. 121321
- BiNAPS and diagnostic cannula brochures

CAUTION

- This product is for diagnostic purposes only and is not to be used as an apnea monitor or in a life supporting or life sustaining situation.
- This device is not intended for pediatrics and infants below two years of age for the purpose of respiration or SIDS monitoring.

WARNING

- Do not use this device with non-Salter Labs Diagnostic Cannulas. The use of non-**Salter Labs** cannulas will void the warranty.

- The patient should wear loose fitting clothing, to minimize the chance of the device contacting the skin.

GENERAL INFORMATION

Airflow Output: Output is a nasal pressure airflow waveform. Output is connected to a polygraph's AC jackbox with 1.5mm safety connectors. Snoring can also be superimposed onto the airflow waveform as shown in the example on the next page. This is accomplished by setting higher values for the high frequency filter and the sampling rate for the airflow channel.

Snore Output: Output is a snoring waveform derived from snore vibrations on the nasal pressure signal. The channel has internal low frequency filter to remove the airflow signal and to provide a flat baseline between snores. Output is connected to a polygraph's AC jackbox with 1.5mm safety connectors.

Hi /Lo Switches: Are used as needed to optimize the airflow and snore signal levels into a polygraph AC jackbox. The "Hi" position will boost signal amplitudes by a factor of four, but will not boost signal amplitudes to DC input levels.

INTEGRAL CIRCUIT TESTER / INDICATOR

Plug each lead into the side port to verify signal. If green light fails to illuminate, assume the device is defective and replace the BiNAPS device. After testing, remove the leads from the indicator port

INSTALLATION INSTRUCTIONS

1. Use Hook and Loop patches to secure the BiNAPS to the AC jackbox or other convenient location.
2. Connect the "Airflow" leads to the selected polygraph AC jackbox inputs.
3. Connect the "Snore" leads to the selected polygraph AC jackbox inputs.
4. Apply the airflow sensor cannula to the patient. Insert the prongs into the nares and loop the headset tubing over the ears and under the chin. Slide the bolo up under the chin for a comfortable fit. If necessary, secure the headset tubing in position, e.g. Salter Labs Tender Grip #1005.
5. It is extremely important that the cannula sensor tips (prongs) do not become blocked during installation or recording.
6. Plug the sensor cannula safety filter into the input of the BiNAPS sensor module with a slight twist to ensure a secure connection.
7. Adjust the polygraph settings per the table below. These settings are recommended starting points. Polygraph and patient variables can significantly influence the settings.

Polygraph & BiNAPS Settings	Airflow	Snoring
High Frequency Filter	5Hz or higher	70Hz or higher
Low Frequency Filter (Time Constant)	0.05Hz or lower (3 sec. or longer)	10Hz or lower (0.016 sec. or longer)
Sampling Rate	10Hz or higher	70Hz or higher
Sensitivity	50µV/mm	50µV/mm
BiNAPS Hi /Lo Switch	Adjust for optimal signal amplitude	Adjust for optimal signal amplitude

Input from Filtered Airflow Sensor Cannula

Polygraph AC Jackbox

Snore Output

Airflow output, filtered to allow snoring

Airflow output, filtered to eliminate snoring