Nascool SMPF-2S

Nascool Digital Peak Flow Meter User Manual

Model: SMPF-2S

1. Introduction

The Nascool Digital Peak Flow Meter is a home medical device designed for accurate and reliable measurement of lung function, specifically Forced Expiratory Volume in 1 second (FEV1) and Peak Expiratory Flow (PEF). It is an essential tool for individuals managing respiratory conditions such as asthma and COPD, as well as for general respiratory health monitoring.

This device features high accuracy and repeatability due to its pressure differential sensor, requiring no calibration after manufacturing. It provides automatic display of PEF and FEV1 values, along with a smart risk indicator for easy interpretation of lung function status.



Figure 1: Nascool Digital Peak Flow Meter and its packaging.
This image shows the compact and portable design of the device, alongside its retail packaging, highlighting its primary function of measuring PEF and FEV1.

2. Product Features

- **High Accuracy & High Repeatability:** Utilizes a pressure differential sensor for precise measurements, meeting ATS ERS WRIGHT standards. No calibration needed post-manufacturing.
- **PEF & FEV1 Display:** Automatically measures and displays Forced Expiratory Volume in 1 second (FEV1) and Peak

Expiratory Flow (PEF).

- **Portable & Easy to Use:** Durable, compact, and easy to clean and disinfect. Disposable mouthpieces are not necessary.
- **Asthma Diary & APP Support:** Helps track lung function and manage asthma symptoms. Allows manual recording on the companion app for tracking progress. *Note: This device does not have Bluetooth connectivity; data must be manually recorded.*
- **Smart Risk Indicator:** Each test result is accompanied by a triangular symbol pointing to red, yellow, or green sections, providing insights into lung function control.

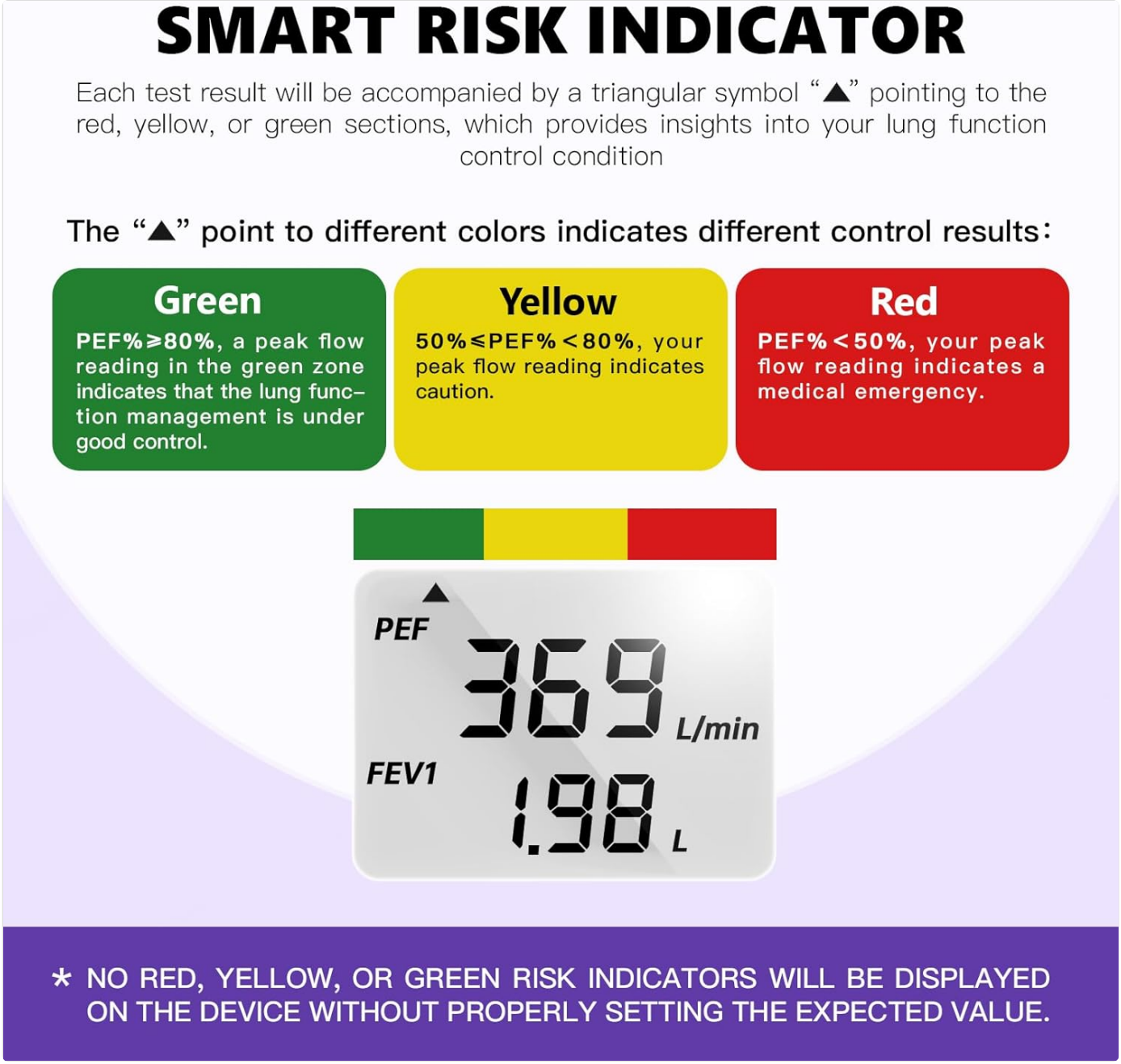


Figure 2: The device display showing PEF and FEV1 readings in L/min and L respectively.
This image illustrates the clear digital display of the device, showing both PEF (Peak Expiratory Flow) and FEV1 (Forced Expiratory Volume in 1 second) values, which are crucial indicators of lung function.

3. Setup and Initial Use

3.1 Battery Installation

The device is powered by 2 AAA batteries (included). Open the battery compartment on the back of the device and insert the batteries, ensuring correct polarity. Close the compartment securely.

3.2 Setting Expected Value (PEF)

To ensure accurate risk indication, it is crucial to set your personal expected PEF value. This value is typically determined by your healthcare provider based on factors like age, height, and gender.

1. Ensure the device is powered off.
2. Press and hold the Home Button (ignore the "go" page) for about 5 seconds until a flashing figure appears on the display. This indicates the parameter setting mode is active.
3. The flashing figure indicates that the value can be edited. Press the Home Button to increase the value of the current digit.
4. Press the Home Button for 2-3 seconds to switch to the next digit.
5. Repeat steps 3 and 4 until your desired expected PEF value is set.
6. Once all digits are set, press and hold the Home Button to save the current value as your expected PEF value.

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Video 1: How to set up the expected value on the Nascool Digital Peak Flow Meter.
This video demonstrates the step-by-step process of setting your personal expected PEF value on the device, which is essential for the accurate functioning of the smart risk indicator.

4. Operating Instructions

4.1 Performing a Measurement

1. **Power on:** Press the Home Button. The device will display "go-" on the screen.
2. **Prepare:** Sit straight or stand up. Take a deep breath with your mouth, then cover the Mouthpiece with your mouth completely. *Please do not place your tongue or teeth against the Mouthpiece. Also, please do not cover the back of the Mouthpiece with your hand.*
3. **Blow:** Blow out as hard and fast as possible through the mouthpiece. You will hear 2 beeps from the device before you can read the result.
4. **Repeat:** Press and then hold the Home Button for 2 to 3 seconds until the device is turned off. The device will automatically power off after approximately 1 minute of inactivity.

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Video 2: How to use the Nascool Digital Peak Flow Meter.
This video provides a visual guide on how to correctly perform a peak flow measurement using the device, including proper breathing technique and device handling.

4.2 Interpreting the Risk Indicator

The device features a smart risk indicator with three color zones:

Green Zone (PEF ≥ 80%): Indicates that lung function management is under good control.

Yellow Zone (50% ≤ PEF < 80%): Indicates caution; your peak flow reading suggests a need for attention.

Red Zone (PEF < 50%): Indicates a medical emergency; immediate attention is required.

Note: No red, yellow, or green risk indicators will be displayed on the device without properly setting the expected value.



Figure 3: Visual representation of the Smart Risk Indicator zones (Green, Yellow, Red).
This image clearly defines the meaning of each color zone on the device's risk indicator, helping users understand their lung function status at a glance.

5. Maintenance and Care

Proper maintenance ensures the longevity and accuracy of your Nascool Digital Peak Flow Meter.

- **Cleaning:** Be sure to wipe and clean the mouthpiece with an alcohol pad after each use.
- **Storage:** Place the device back into its cardboard packaging or a protective case after use to prevent damage.
- **Battery Replacement:** Replace batteries when the low battery indicator appears on the display. The device is designed for up to one year of daily use on 2 AAA batteries.



Figure 4: Labeled parts of the Nascool Digital Peak Flow Meter.
This image highlights the key components of the device, including the mouthpiece, risk indicator, display, and home button, aiding in understanding its structure for maintenance.

6. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	Low or no batteries; incorrect battery polarity.	Replace batteries; ensure correct polarity.
Inaccurate readings.	Improper blowing technique; mouthpiece not sealed correctly; device not set to personal expected value.	Review operating instructions for proper technique; ensure tight seal around mouthpiece; set personal expected value (refer to Section 3.2).

Problem	Possible Cause	Solution
No risk indicator displayed.	Expected value not set.	Set your personal expected PEF value (refer to Section 3.2).

7. Specifications

- **Product Dimensions:** 2 x 1.7 x 4 inches
- **Item Weight:** 4.23 ounces
- **Model Number:** SMPF-2S
- **Manufacturer:** Nascool
- **Country of Origin:** China
- **Measurement Units:** L/min (PEF), L (FEV1)
- **Power Source:** 2 x AAA batteries

8. Warranty and Support

For any product inquiries, technical support, or warranty claims, please contact Nascool customer service. Refer to the contact information provided in your product packaging or visit the official Nascool website.
Legal Disclaimer: Statements regarding dietary supplements have not been evaluated by the FDA and are not intended to diagnose, treat, cure, or prevent any disease or health condition.

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Example: How do I reset this device or fix this error?

Details

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