

West of Scotland Adult Cystic Fibrosis Service

Vitalograph[®] Lung Monitor BT Smart MODEL 4000



Instructions for Use

PLEASE READ THIS THROUGH BEFORE USING YOUR LUNG FUNCTION MONITOR

Introduction

These lung monitors are supplied to patients of the Service who are shielding at home during the Coronavirus pandemic. They are expensive and delicate, so please look after yours carefully as we may not be able to replace it if it gets broken.

We have already installed the two AAA batteries, checked that it's working and pre-set your predicted (ideal) lung function (FEV1).

When to measure your lung function

While it can be very helpful to you and your team to know your lung function, we are aware that it may also cause anxiety and concern if the figures are not as expected. We would advise limiting measurement to:

- (a) When you first receive the machine, try it using the instructions below so that you become familiar with how to take a measurement and become confident with the machine.
- (b) At virtual (video) clinics – we will want you to check your lung function during the clinic call as part of the consultation.
- (c) If you feel unwell and suspect you are developing chest problems. Check your lung function prior to (not instead of!) giving us a phone call.
- (d) Any other time we call and ask you for a measurement.

Lung function is always variable over time so please don't get concerned about small changes. An FEV1 change of up to 0.2 between measurements is expected and does not mean anything is wrong.

Instructions for use

1. Operator controls



1. User buttons	▼	Down Button
	▲	Up Button
	↵	Enter Button

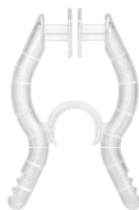
2. Screen	Displays results
3. Flow sensor	FRAGILE! Do not drop this device!
4. On/off switch	Switches itself off after a few minutes disuse

2. Preparing to use – attach a bacterial/viral filter to the flow sensor to use as a mouthpiece:



Note: with single patient use of these machines, it is OK to use the same filter for a month – filters do NOT need to be discarded after each use on your own machine.

3. Press and hold the On-off button until it beeps and the machine comes on.
4. Apply the noseclip firmly so there is no air escaping from your nose.



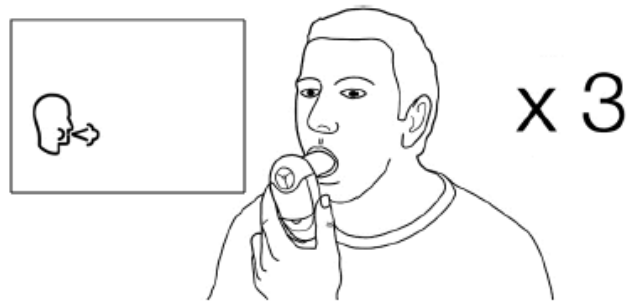
Note: please keep the noseclip safe – you will need it for every measurement


5. The monitor should be showing a picture of a head blowing, this means it's ready to start. Sitting upright, breathe in fully, put the mouthpiece in your mouth, gently bite on it and seal your lips round it, then blow out as hard and as fast as you can, for as long as you can. You will hear a quiet beeping as the flow sensor measures the airflow.

It is really important that you blow as hard and as fast as you can for at least 10 seconds to get a reliable reading!

When you have finished blowing out, take the machine out of your mouth and check the screen. It will be showing your PEF or Peak Flow reading. Ignore that value, the one we want is FEV1 which you can see by pressing the “up” button.

Always check that there is no exclamation mark (“!”) after the number – that means a “bad blow” or a blow which started a little late and we would ask you to repeat this if you see “!”. If you don’t see a “!”, all is well and you need to repeat step 5 another two times so that you have done at least three good maximum blows. Ideally the FEV1 should be no more than 0.1 litres different on the three tries.



6. After the third blow, press the “Enter” button () for 3 seconds and the machine will automatically scroll through your best values for the current session in sequence:
- (a) PEF – we don’t need that
 - (b) FEV1, and underneath in smaller figures, your FEV1 as a percentage of the normal value for someone your age and size who does not have CF. These are the values (FEV1 and percentage) that you should write down and tell us.
 - (c) FEV6 – we don’t need that
 - (d) FEV1/FEV6 – we don’t need that
 - (e) FEF – we don’t need that

Recording and storing the results on your smartphone

You don’t need to transfer or store results on your phone, but you can using the free Project Breathe app, which is described on this website:

<https://magicbullet.co.uk/project-breathe-user-guide>

- and can be downloaded to your phone from PlayStore or similar apps.

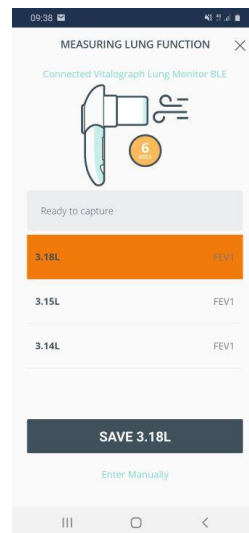
To use the Project Breathe app:

1. Download and start the app, the screen should look like this:



2. Switch on your lung monitor and put it next to your phone. Make sure Bluetooth is enabled on your phone.

3. Press “+” next to lung function – the first time you do this it will ask if you want Project Breathe to know your location (not needed) then it will ask if you want to pair to a device – say “Yes” and when the phone finds the lung monitor, something like “Lung_5785” will appear on the “Search devices” screen. Press “Lung_5785” to pair the phone with your lung monitor.
4. Now with your phone near your lung monitor, if you perform a test (step 5 above) the FEV1 values will appear on your phone, and the highest (best) one can be saved on the phone by pressing “SAVE”:



Cleaning and care of your lung monitor

This is a fragile and costly device so please look after it carefully. After use please :

1. Remove the filter/mouthpiece.
2. Wipe down the mouthpiece, noseclip and lung monitor with an alcohol wipe.
3. Keep the mouthpiece and the noseclip safe in a clean bag for next time.
4. The noseclip should be kept, the filter replaced (if it has been used) after a month.
5. Store the monitor in the small black cloth pouch provided.
6. Please keep everything in a safe place away from children and pets.

If it won't switch on, try replacing the batteries (two standard AAA, under clip off back panel).