



## Frequently Asked Questions

### Flowhead connections

#### My test is not recorded

Flowhead white twin-tubing may be connected in reverse. Pull off tubing at both ends and re-connect. Ensure that the ribbed side of the tube is connected to the serrated/blue connector at both ends.

### Performing Tests

#### How is interpretation calculated ?

Interpretation of test results are based on algorithms specified in the NIOSH Manual of Spirometry in Occupational Medicine, Division of Training & Manpower Development, Cincinnati, US Dept of Health & Human Services/PHS/CDC/NIOSH 1981.

#### Why is 'Unable to predict lung age' displayed ?

- Lung age is only available if the date of birth, height, gender and smoking information has been entered.
- Subject smoking details required on subject demographics entry.
- The Lung Age estimation will be included on the printout for smokers only.  
The estimated lung age is to be reported as 'actual age' if the value is negative, less than actual age or "0".

#### Why is 'COPD risk unavailable' notification displayed ?

The COPD check box, which is available in the subject demographics screen, must be selected. Also DOB, gender and smoking info must be entered.  
COPD risk cannot be calculated for tests previously performed without the COPD check box selected.

#### Why is COPD number not displayed or printed?

The COPD check box on the subject 'smoking details screen' must be selected  
Calculation of this number only applies to subjects already diagnosed with COPD.

The COPD Number is: -  
 $\text{Measured FEV1} * 100 / \text{Predicted FEV1}$   
If there is no FEV1, then the COPD number will not be reported.

#### What are criteria for a good test session?

A good test session occurs when a minimum of 3 acceptable tests have been performed and 2 of those meet the following reproducibility criteria

The difference between the 2 highest acceptable FVCs is less than 150ml.

The difference between the 2 highest acceptable FEV1s is less than 150ml

#### VC test screen is not displayed

When the FVC test type selected is Closed Circuit Spirometry then it is not possible to perform an SVC test.  
It is only possible to perform a VC test if the FVC test type selected is Single Breath Test.

#### How can I change Save test option ?

The Save test options are located on the Options / Indices screen

#### What is 'Automatically Accept tests' option for ?

If the 'automatically accept tests' check box on the Configuration / Indices screen is deselected then a test Accept Confirm screen will appear after you exit the test screen. You will need to answer the 'Do you want to keep this test?' question.

The Compact will by default accept all tests performed during a test session, and save the test to the database at the end of the session based on the "Save Option" selected. You can also configure the Compact to ask at the end of each test whether you wish to keep the test. To do this, un-check the "Automatically Accept Tests" check box

## **What data is plotted on the trend graph?**

Full Trend is a seventy year trend of the best FEV1 value from the subjects 25th to 70th year  
The FEV1-Pre,FEV1-Post and LLN lines are plotted

Ten point trend is a trend of the last ten test sessions.  
The FEV1-Pre,FEV1-Post and LLN lines are also plotted

It is not possible to trend any parameter other than FEV1

## **What is SDS [Standard Deviation Score] ?**

RSD, standard deviation score (= Z-score) and percentile

The scatter that remains after making allowance for independent variables, is the residual scatter or residual standard deviation (RSD). Some observations are larger, some are smaller than the mean. The average of all deviations (observed - predicted value) is nil, and at that point predicted and observed values are identical.

The yellow dome-shaped bell depicts the frequency with which the observations exceeded or fell below a value predicted from the regression equation; it is called a frequency distribution or probability density function. If deviations are normally distributed, as in the figure, 50% of all observations are below predicted and 50% above. This point divides the population in equal halves and is therefore called the median; the 50 percentile in a normal population equals 0 RSD: in a normal distribution mean = median.

It is convenient to express the difference between the observed and predicted value as the standard deviation score, i.e. in the number of RSD. It is also called the Z-score. In 95% of individuals (observed - predicted) < 1.64·RSD; this therefore marks the 95 percentile. In only 5% of cases (observed - predicted) < -1.64·RSD; this then marks the 5 percentile. The area between -1.64·RSD en +1.64·RSD in a normal distribution therefore comprises 90% of the population, and hence delineates the 90% confidence interval.

The 95% confidence interval in a normal distribution is between - 1.96·RSD and +1.96·RSD, i.e. 2½% of all observations are smaller than (predicted - 1.96·RSD), and 2½% are larger than (predicted + 1.96·RSD); -1.96·RSD marks the lower 2½ percentile.

## **General Questions**

### **What are the functions of the external ports ?**

The USB rectangular type A receptacle connects the Compact to a 'USB printer' square type B receptacle using the cable Cat No 67252.

The square USB type B receptacle is the connection that is used for connection to a PC, for example when using Vitalograph Reports.

An additional purpose of the square USB type B receptacle is to 'future proof' the device. If standards or predicted values or language or any other change is required to the device, this can be done by a certified service technician via the USB port.

The 9 way COM port is also used by a certified service technician to upgrade the operating system.

### **What is the Compact memory capacity?**

Standard memory capacity 2000 tests:

For 1 subject then 2000 tests can be stored.

If 20 Subjects then 100 tests for each subject can be stored.

If 200 Subjects then 10 tests for each subject can be stored.

This memory may be expanded by a qualified service technician

### **How is Compact repeatability calculated ?**

Repeatability is the difference between the Best and the Next Best test for FVC, FEV1 and PEF.

### **How do I enable or disable buzzer sounds?**

Select main menu " Options" then Configuration.

The sound is configured on by default. It can be switched off by un-selecting the checkbox

### **Device is not retaining Date and Time information**

The Main PCB lithium Battery may need to be replaced. Contact your Vitalograph service centre.

### **Test begins automatically**

Test begins automatically or volume accumulates automatically without the subject blowing or very small VC or FVC test displayed.

1. False start or zero taken by the device due to air movement in the flowhead. Rerun the test
2. Flowhead and / or tubing not stationary at the start of test. Hold them steady until the "ready to blow" prompt appears.
3. Return to Home screen and re-enter the test routine.

#### **Internal printer not working properly**

Ensure that internal printer is selected on the Options / Report Options screen.  
Ensure also that the internal printer "Green lever" is in the down position.

#### **Calibration is consistently > 3%**

Possible causes are

1. Ensure that correct syringe volume is entered.
2. An accuracy check is required after cleaning / disinfecting the flowhead.
3. Mesh Filter in flowhead cone is missing or blocked.
4. Flowhead pressure ports blocked.
5. Flowhead sealing O rings damaged.
6. Flowhead has not been dried thoroughly.
7. Element assembly blocked.
8. Flowhead tubing blocked.
9. Main PCB failure.

### **Creating spirometry reports**

#### **Can I create large format, permanent reports?**

Provided with every device is a CD containing PC software to connect to your device via the USB cable supplied. This software is called 'Vitalograph Reports' and allows you to create reports on your PC in PDF format.

You will need to install the software on your PC and also select from the Compact Menu: Options; Report Options; Printer 'Print to PC'

When you have the spirometry report in PDF format, you can re-name the file, print on you PC or network printer, organise, archive, transmit or save the file in your management software.

#### **Why is my printout blank?**

Printing is only possible on the coated side of the printer paper. Please ensure that the paper roll is inserted correctly. The Vitalograph logo is printed at regular intervals at the edge of the roll on the coated side where printing is possible.

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