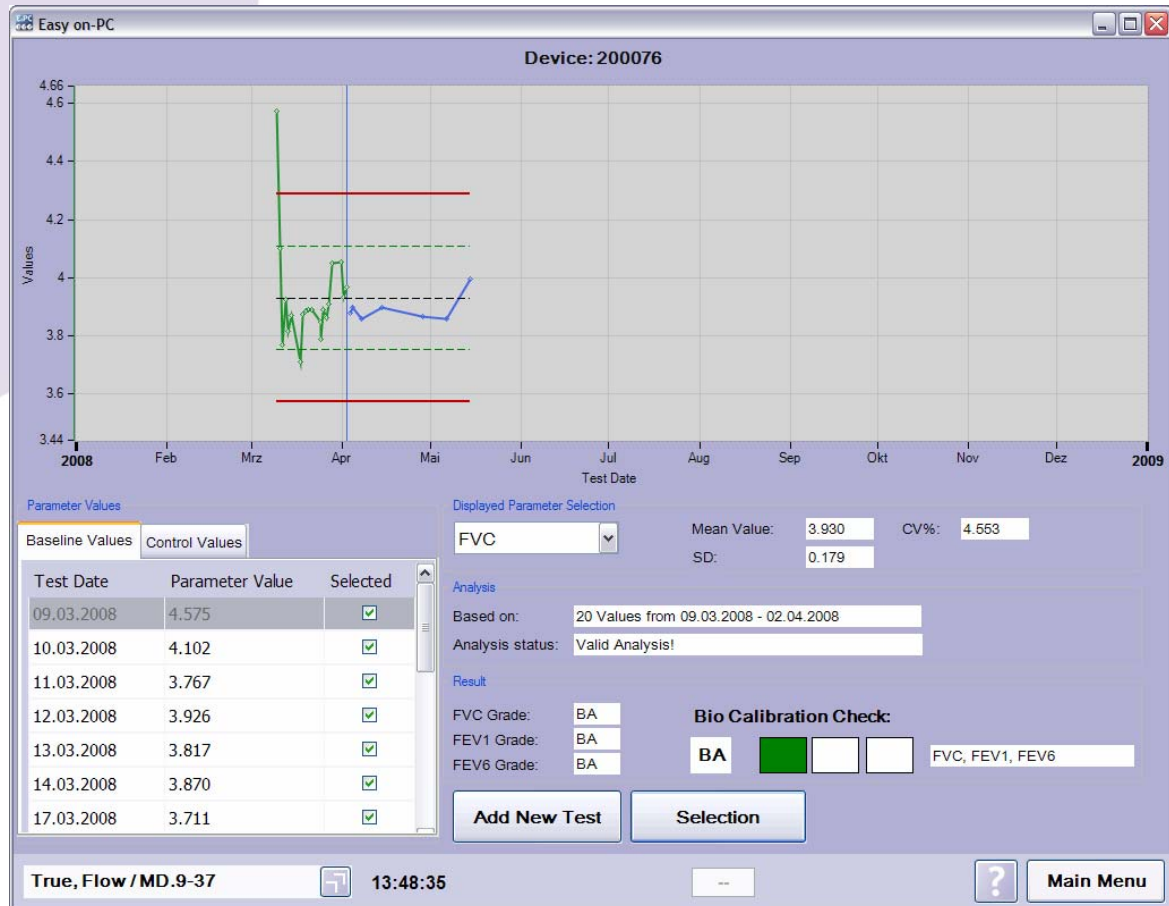# DLCO Bio-Calcheck EasyOne Pro

General:

A Bio-Cal-Check tests the performance of the equipment and operational reliability without using a calibration tool like for example a syringe. A Biological Standard subject (BioCal Subject, usually 1or more operators) performs a series of tests which are observed and statistically controlled whether they are within an expected range. Usually a Lewy Jennings plot with SD

The data is collected on individual healthy, non smoking BioCal Subjects.

Main Screen BioCal-Check:

Procedure: Open BioCal-Check and Add New Test

1. Start application
2. Open menu **Utilities**
3. Open menu **Check Calibration**
4. Open menu **Biological Calibration Check** (Main Screen BioCal-Check is opened)

5. *Device Selection:* Select device according to serial number (check label on sensor)
6. *BioCal Subject Selection:* Select subject which performs the BioCal-Check test. If the subject is not in the list, press **Add New BioCal Subject** and select or add new subject. Afterwards return to BioCal-Check menu.
   a. *Recommendation:* **Set Patient ID** to 'Bio-1, Bio-2, …'

7. Press **Add New Test**
8. Perform Test (Test selection: DLCO, (or TLCO,) VA, others as applicable
   a. *Recommendation: Try to blow a* **QC-Grade 'A'** *test*
   b. *Recommendation: Perform only one BioCal-Check test a day*
9. Press **Finish Test**
10. The result is shown in the **Analysis** section and the **Result** section.

Functionalities to Review Data:

1. The show the trend graph press the *Graph* button
2. To select another review parameter change selection in ***Displayed Parameter Selection*** section
3. The *Parameter Values* section is divided into 2 Tab-Sheets: *Baseline Values* (used to calculate warning levels) and *Control Values* (controlled values for BioCal-Check QC-Grade calculation)
4. To deselect a Test (*Baseline* and Control Values) remove the ☑ mark in the *Parameter Values* section of the according test. A deselected test is not used anymore for calculations. This means also that by deselecting a *Baseline Value*, the first *Control Value* is moved to the *Baseline Values* because a minimum number (20) of Baseline Test is required for valid analysis.

Specifications BioCal-Check QC-Grade:

For each parameter as selected, an individual BioCal-Check QC-Grade is calculated. Additionally the lowest grade of all parameters is reported.

Bio-QC-Grad	Limitation	Additional Limitation
BA	-	-
BB	1 value out ± 2SD	-
BC	1 value out ± 3SD	-
BD	>= 4 values out of ± 1SD	only consecutive values on same side of mean
	>= 2 values out of ± 2SD	only consecutive values on same side of mean
	>= 1 values out ± 3SD	-
	>= 10 values, consecutive on same side of mean	-
BF	< 20 baseline values	

- 🟩 Bio-Cal-Check ok
- 🟧 Warning: repeat Bio-Cal-Check
- 🟥 Out of control: Contact Service
- 🟨 Out of control: Contact Service

Spirometry:

Proceed accordingly for FVC, FEV1, FEV6, VC $_{In}$