HUR Labs
Body Composition Analyser
Software Suite

User Manual

6.8.2009

1 UNDERSTANDING BODY COMPOSITION 3

1.1 General 3
1.2 Differences in Body Composition Between Males and Females 3
1.3 Difference Between Standard and Athletic Modes 3
1.4 Dieting and Body Composition 3
1.5 Age and body composition 4

2 INTRODUCTION TO THE SOFTWARE 4

2.1 Overview 4
2.2 Advantages 4
2.3 Features 4

3 INSTALLATION 5

3.1 System Requirements 5
3.2 Compatible Scales 5
3.3 Software Installation 5
3.4 Connecting the Scale, Remote Mode 6

4 PROGRAM SETTINGS 7

4.1 Settings 7

5 MANAGING DATABASE 8

5.1 Structure of the Database 8
5.2 Database Options 8
5.3 Browsing Groups / Person / Test Database 8
5.3.1 Adding, Removing and Editing Groups 9
5.3.2 Adding, Removing and Editing Persons 9
5.4 Searching the Database 11
5.5 Container 11
5.6 Working with Tests 12
5.7 Making Backup of the Database 12

6 TESTING 13

6.1 Ideal Test Condition 13
6.2 Test Accuracy 13
6.3 Performing a Test 13
6.4 Error Situations 14
6.5 Adding a Test Manually 15

7 ANALYSING AND COMPARING TESTS 16

7.1 The Body Composition Test Analysis 16
7.2 Comparison 17
7.3 Person's Test History 18

1 Understanding Body Composition

1.1 General

Tanita body composition analyzers use mild electrical current to determine the body composition of the test person. This technique is known as bioelectrical impedance analysis and it has been proven to be one of the most accurate techniques available.

The BIA method is based on circulating electrical current through a person. The impedance met is then measured and when the value is known various calculations can be performed to find out facts about body composition very accurately.

1.2 Differences in Body Composition Between Males and Females

The most noticeable difference between sexes is the amount of fat and muscle. Men tend to have less fat and more muscle than women. Because of the greater amount of muscle, men also have more water in their body. These facts have to be taken into account when determining body composition.

1.3 Difference Between Standard and Athletic Modes

By various researches in has been proven that an athletic person's body composition differs from that of a standard non-athletic person. Tanita body composition scales use the following definition of an athlete:

- 10 hours of intense exercise in a week for more than half a year (or used to have)
- Pulse rate at rest less than 60 beats per minute

To ensure correct information always select the mode which describes you best.

1.1 Dieting and Body Composition

Weight loss doesn't always ensure loss of fat. Body composition analysis is a good tool for a person who is on a diet to gain good results. The accurate readings for fat percentage, fat mass and fat free mass give great information for a person who is interested in getting fit. Bad diets may cause you to lose weight from wrong areas like muscle mass instead of fat mass.

1.2 Age and body composition

It is normal and even healthy for an elderly person to have more fat in his/her body. Healthy body mass index also depends on age.

2 Introduction to the Software

2.1 Overview

HUR Labs Body Composition Analyser Software Suite is fully compatible with all Tanita scales that are able to send data to a computer via serial port. The purpose of the software is to help keeping track of multiple people's body composition and to make it easier to analyze the data received from the scale. The sophisticated database makes it possible to easily manage, compare and analyze even large database sizes. All data received from the scale can be shown graphically on screen, printed and copied to Windows clipboard. Body composition analysis has never been easier.

2.2 Advantages

Due to limited output of the Tanita scales it is clear that many advantages are gained when software is put to assist hardware. Instead of cold numbers on paper Body Composition Analyzer Software is able to represent numbers as clear graphs. Every body composition test performed on a compatible Tanita scale can be saved to a database and later be reviewed, analyzed or compared with other tests.

2.3 Features

- Database for persons, groups and tests
- Ability to save tests for later analysis
- Comparisons of different tests
- Container to help comparisons
- Measurement unit selection SI / US
- Printable test reports

3 Installation

3.1 System Requirements

- Microsoft Windows XP or Vista
- Screen resolution of 1024x768
- Pentium III 1GHz or equivalent
- Minimum 256Mb RAM
- Serial port or USB-port (for USB-Serial converter) for Tanita scale connection.
- Printer optional

1.1 Compatible Scales

The following body composition analysis scales manufactured by Tanita corporation:

- TBF-300 MA ja GS
- BF-350
- BC-418
- BC-418 MA
- BC-420 SMA ja PMA
- MC-180 MA
- MC-180 SV
- SC-330

1.1 Software Installation

- Insert **HUR Labs Body Composition Software Suite** CD-ROM to appropriate drive
- The program installation starts automatically
- Follow the instructions

NOTE: In Windows XP and Vista the installation needs to be run with administrator rights. If you plan to use the program in regular user account, you need to set file permissions for database and program directories.

3.2 Connecting the Scale, Remote Mode

BC-418 MA:

- Turn off the scale.
- Press 'On/Off'-button and 'CE'-button simultaneously
- Press buttons '0' and '8'
- 'r5' will appear on the display. Press '1' or '0' to switch the remote mode on or off.
- Confirm selection by pressing 'CE'-button.
- Turn off and back on the scale. 'r5' will be displayed on the screen if the remote was selected.

BC-420 SMA ja PMA:

- Remote mode will be taken in use automatically.

BF-350:

- Turn off the scale.
- Press 'On/Off'-button and 'Zero Reset'-button simultaneously.
- Use arrow keys to switch remote mode on or off.
- Press 'Set'-button to save the selection.

TBF-300:

- Computer control, remote mode, is not available.

MC-180 MA and MC-180 SV:

- Remote mode will be taken in use automatically.

SC-330

- Remote mode will be taken in use automatically.

Please refer to the scale's manual for more detailed instructions how to connect the scale to a computer.

4 Program Settings

4.1 Settings

The **HUR Labs Body Composition Software Suite** has some settings, which need to be set correctly in order for the program to work properly. Settings can be entered through the **'Settings'**-window, which can be viewed by selecting ***'File\|Settings'*** from the program's main menu. 'Settings'-window is seen in Figure 1.

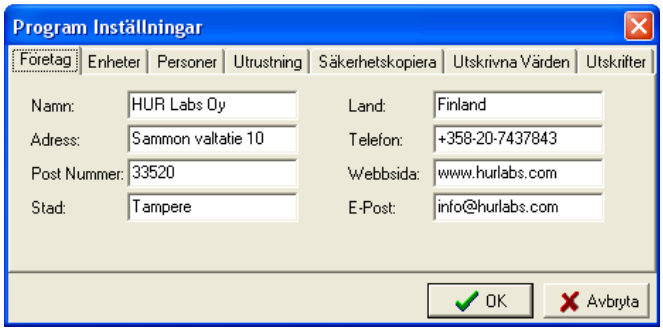


Figure 1: Program Settings Window

The first page includes company information. This information will be printed in reports. Fill in your own company's information.

The second page displays the unit settings.

The third page of the settings window displays the settings of the test person. The default nationality of persons can be controlled here.

The fourth page includes the important serial port setting. This setting can also be changed at test settings. All available com-ports are listed. If a Serial-to-USB converter is used, make sure that the converter is attached to the computer and that its drivers are working properly. This page also displays the current Tanita Model selection. It is important that the correct Tanita model is selected.

The fifth page of the settings window gives the opportunity to change the backup path.

The sixth page lists all the values possible to get from Tanita body composition analysers. From this page the user can select what values can be left out from printouts.

The last seventh page includes a setting for MC-180 MA/SV test reports. It is possible to print to a special prepared paper.

5 Managing Database

5.1 Structure of the Database

The database behind the HUR Labs Body Composition Software Suite consists of groups of persons, persons and tests. This structure helps to organize persons and tests logically, just like the files are organized to sub-directories on the hard drive. Since HUR Labs Body Composition Software Suite version 3.06, the database engine has been changed.

5.2 Database Options

From the Database Options, it is possible to change the database, refresh the database tree and import an old Paradox database. The 'Change Database'-function makes possible to create a new empty database.

5.3 Browsing Groups / Person / Test Database

The contents of group / person database can be viewed by clicking the 'Database'-button (Figure 2) from the program's toolbar. The database tree will appear as seen in Figure 3.

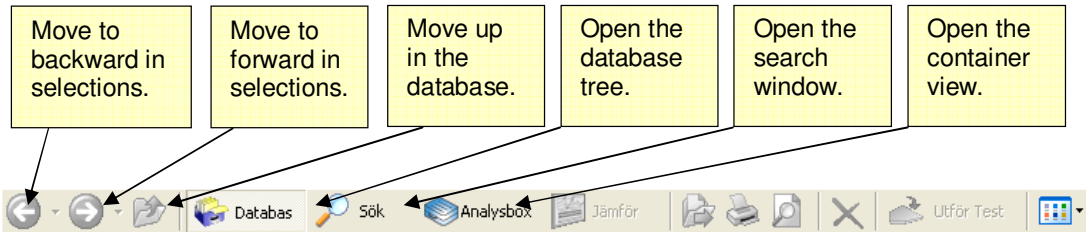


Figure 2: Main Toolbar

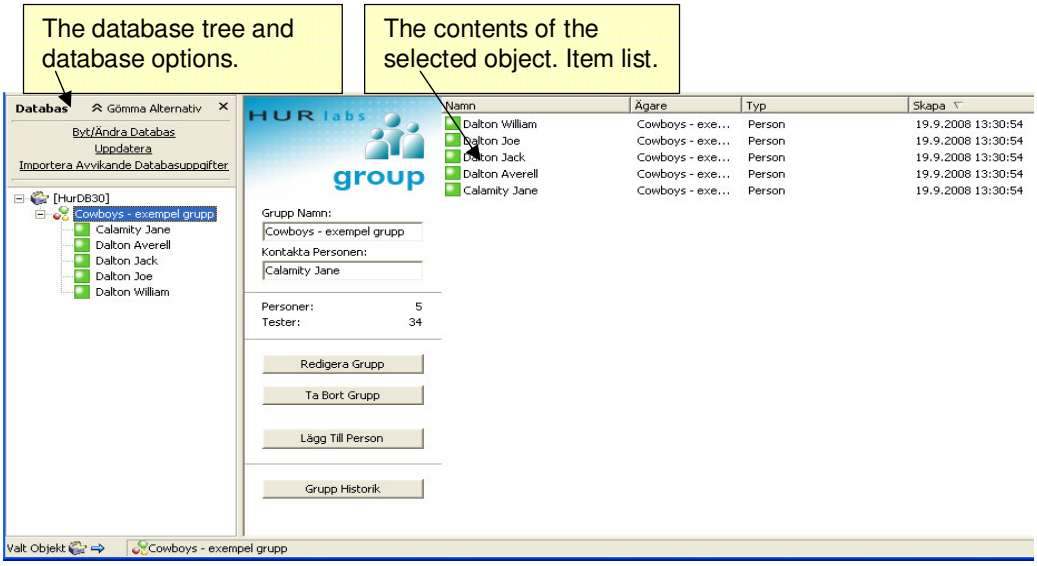


Figure 3: Browsing the Database

5.3.1 Adding, Removing and Editing Groups

A new group can be added to the database by clicking the **'Add New Group'** button. A dialog, where information about the new group can be entered, will appear (Figure 4).

Information about a certain group can be viewed or edited by selecting the group from the tree view and clicking the **'View / Edit Group'** button. A dialog with group's information will appear. Group information can now be edited.

Figure 4: Group Information Window

Information about a certain group can be viewed or edited by right clicking on the group and selecting **'Edit Group'** from the popup menu. A dialog with group's information will appear. Group information can now be edited. Right click on a group and select **'Remove'** from the popup menu to remove it. An alternative way is to select the test and click on the **'Delete Selected Element'**-button, which is located on the main toolbar. Removing a group also removes all its persons. Basic group operations can also be found from **'File|Base DB Operations'** from the program's main menu.

Please note that a group, which contains persons who have foreign references, from other HURDB compliant programs, cannot be removed.

5.3.2 Adding, Removing and Editing Persons

A new person can be added to a certain group by selecting the group from the tree view and clicking the **'Add New Person'** button. A dialog, where information about the new person can be entered, will appear (Figure 5).

Information about a certain person can be viewed or edited by selecting the person from the tree view and clicking the **'View / Edit Person'** button. A dialog with person's

information will appear. **Person information** can now be edited.

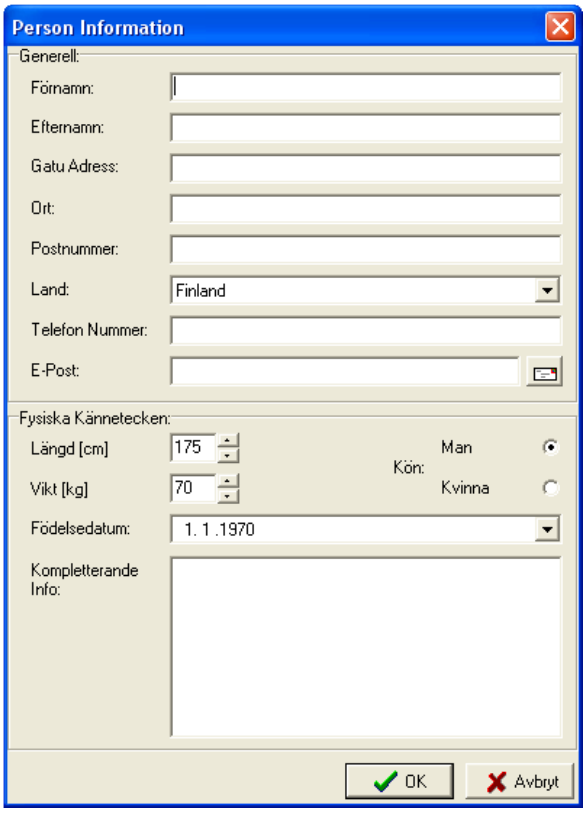


Figure 5: Person Information Window

Information about a certain person can be viewed or edited by right clicking on a person and selecting **'Edit Person'** from the popup menu. A dialog with person's information will appear. **Person information** can now be edited. Right click on a person and select **'Remove'** from the popup menu to remove a person. An alternative way is to select the test and click on the **'Delete Selected Element'**-button, which is located on the main toolbar. Removing a person also removes all its tests. Basic person operations can be also found from **'File|Base DB Operations'** from the program's main menu.

Please note that a person or persons tests who have foreign references, from other HURDB compliant programs, cannot be removed.

5.4 Searching the Database

Groups, persons or tests can be searched from the database by clicking 'Search'-button. A search dialog will appear as seen in Figure 6.

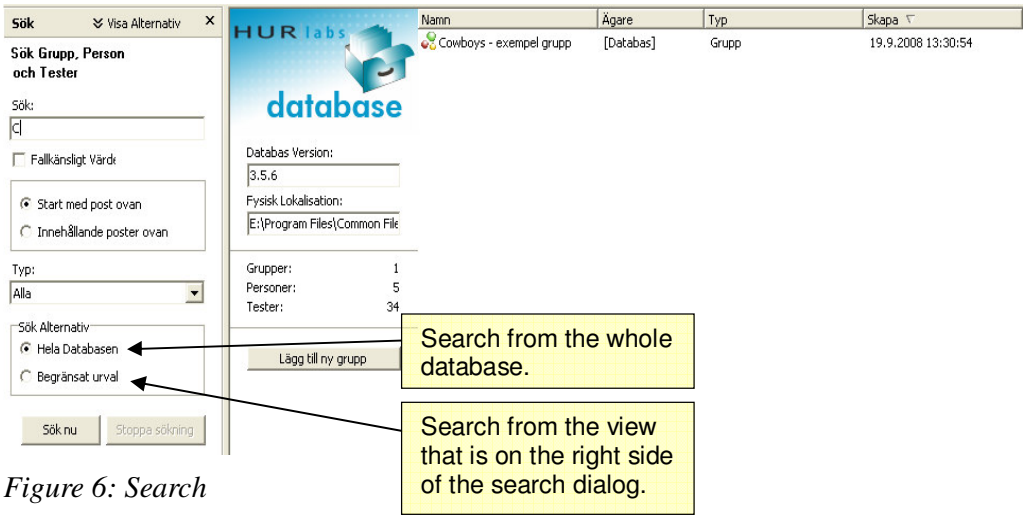


Figure 6: Search

Enter the known information about the target to be searched in edit box on the top of the window and click **'Search Now'**-button to start search. Type can be group, person or test. In the search options, the **'Entire database'**-option means that the whole database is searched and the **'Only scope'**-option means that the view on the left will be only searched. The search results will be shown in the left side of the **'Search'-**window. This is the fastest way to locate a certain group, person or test in the database.

5.5 Container

The container is a useful tool for selecting tests from different persons for comparison. Persons and groups can also be added to container. Items can be added to container by right clicking on items view and selecting **'Add to Container'** or **'Add all to Container'**. Right clicking on person or group gives an option to add all its tests to container.

The container can be viewed by clicking on the **'Container'**-button. In the container there are options for filtering items, removing duplicate items or clearing the list. To compare the contents of the container, click on the **'Analyse Scope Data'**-button.

5.6 Working with Tests

Tests, which belong to a certain person, can be viewed by selecting the person from the database tree.

Owner means the person that made the test. Type tells you that what protocol was used when performing the test. Created is the time when the test was performed.

Tests can be analysed by double clicking on it or by right clicking on it and selecting **'Analyse'** from the popup menu.

Right click on a test and select **'Remove'** from the popup menu to remove it. Alternative way is to select the test and click on the **'Delete Selected Element'**-button, which is located on the main toolbar.

5.7 Making Backup of the Database

A backup of the current database can be made by selecting **'File|Backup'** from the program's main menu. Select the directory where to save the backup. The copy of the database will appear in a zip-file.

NOTE: Remember to make backups!

WARNING: A computer malfunction might result in data loss!

6 Testing

6.1 Ideal Test Condition

To ensure as much accuracy as possible it is important that the following guidelines are met:

- No alcohol 48 hours before the measurement takes place
- No intense exercise 12 hours before the test
- No eating or drinking 4 hours before the test (especially caffeine)
- Bladder should be emptied 30 minutes before the test
- No diuretics for 7 days before the test (if possible)

1.1 Test Accuracy

The HUR Labs Body Composition Analyser Software Suite shows the data exactly the way it gets it from the scale (excluding rounding). The limitations for accuracy come from the measurement technique itself. The BIA method of measurement has been proven to correlate highly with the other techniques in use and achieve high accuracy.

6.2 Performing a Test

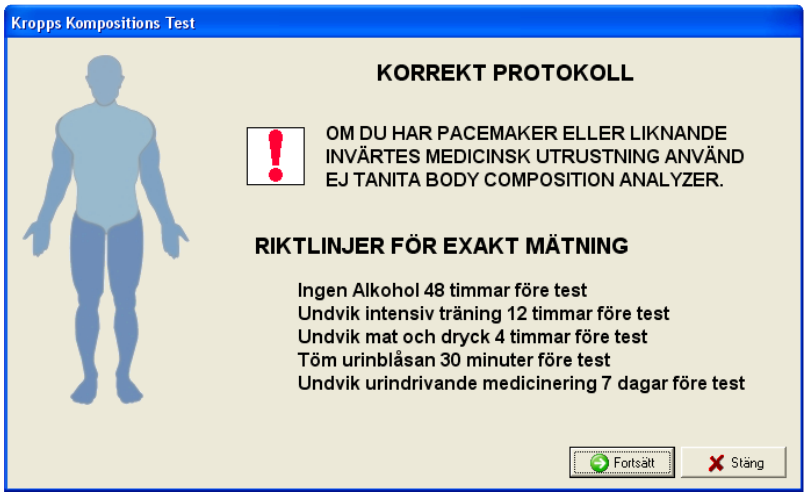


Figure 7: Test Window

For the Body Composition Analyser to work, the scale used must be properly connected to a serial port of the computer (refer to the scale's manual). Alternatively it is possible to use a Serial-to-USB converter. Remember to make sure that the converter's drivers are

working properly.

Most of the Tanita models can be controlled from the computer. In this case, person information, extra weight (clothes etc.) and body type are sent to the analyser automatically and then the test is started.

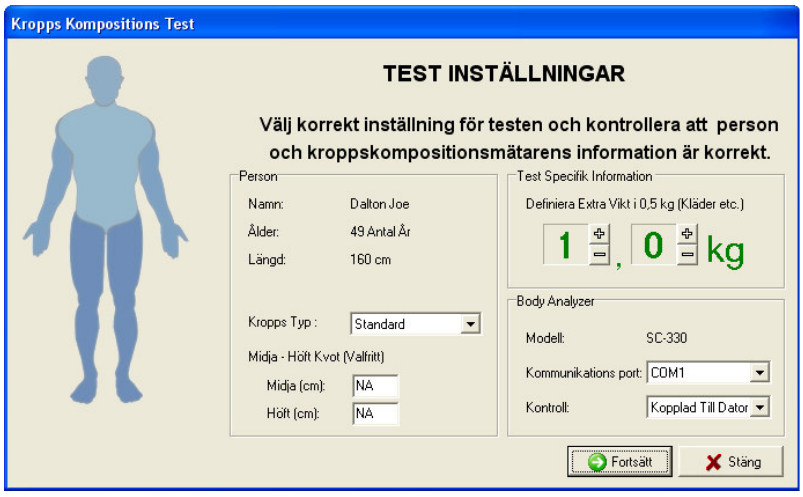


Figure 8: Test Settings

When the scale has sent the measured data to the computer the test values are shown on the screen. When you press the Save button the test data is automatically saved to the database for later analysis or compare.

Figure 9: Test Finished

6.3 Error Situations

Sometimes it is possible to receive invalid data from the scale. In this case an error message will be shown on the screen and the data can not be saved. Check the cable connection and make sure that the scale is properly installed. Consult the scale's

manuals if you are not sure. If you can't solve the problem and continuously receive error messages, do not hesitate to contact us.

6.4 Adding a Test Manually

A test can be added manually through the **'Manual Data Entry'**-window, which can be viewed by selecting ***'Test\Add Test Manually'*** from the program's main menu. **'Manual Data Entry'**-window is seen in Figure 10.

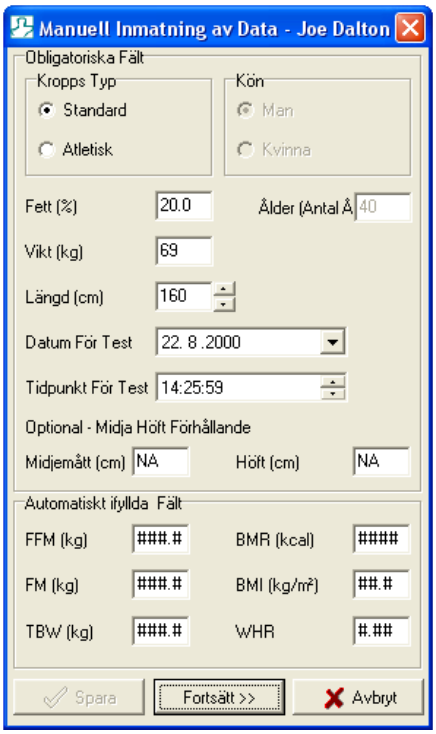


Figure 10: Manual Data Entry Window

The following information needs to be entered:

- Body type
- Fat %
- Height
- Date of the test
- Time of the test
- Waist and hip circumference (optional)

Results will be automatically calculated.

1 Analysing and Comparing Tests

6.5 The Body Composition Test Analysis

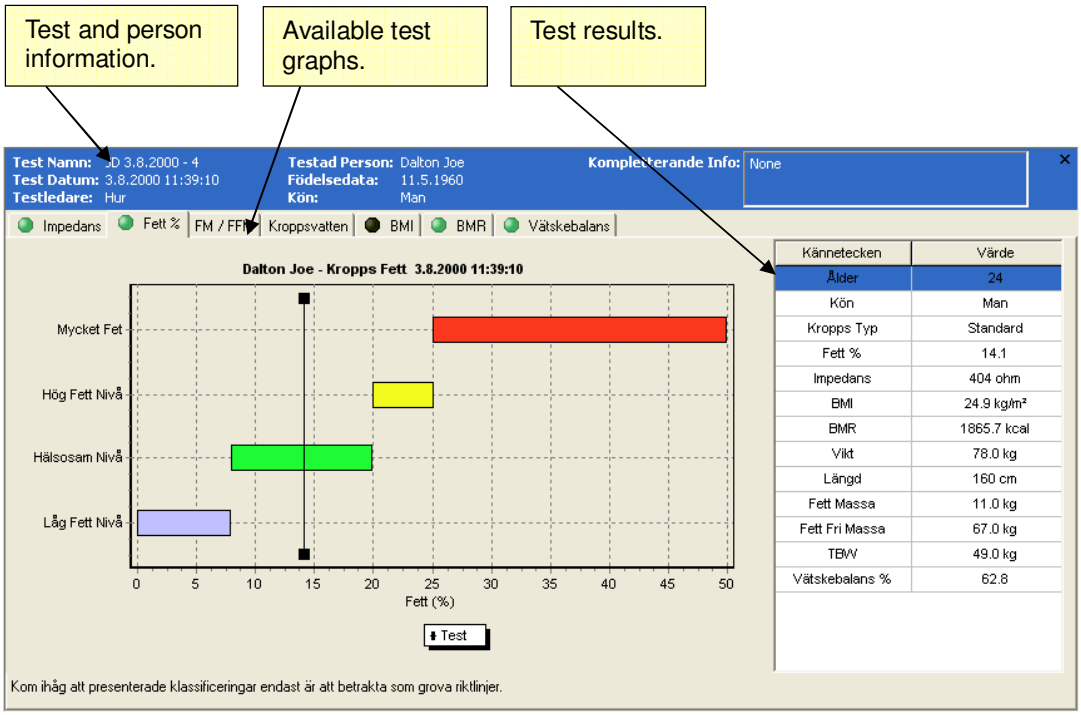


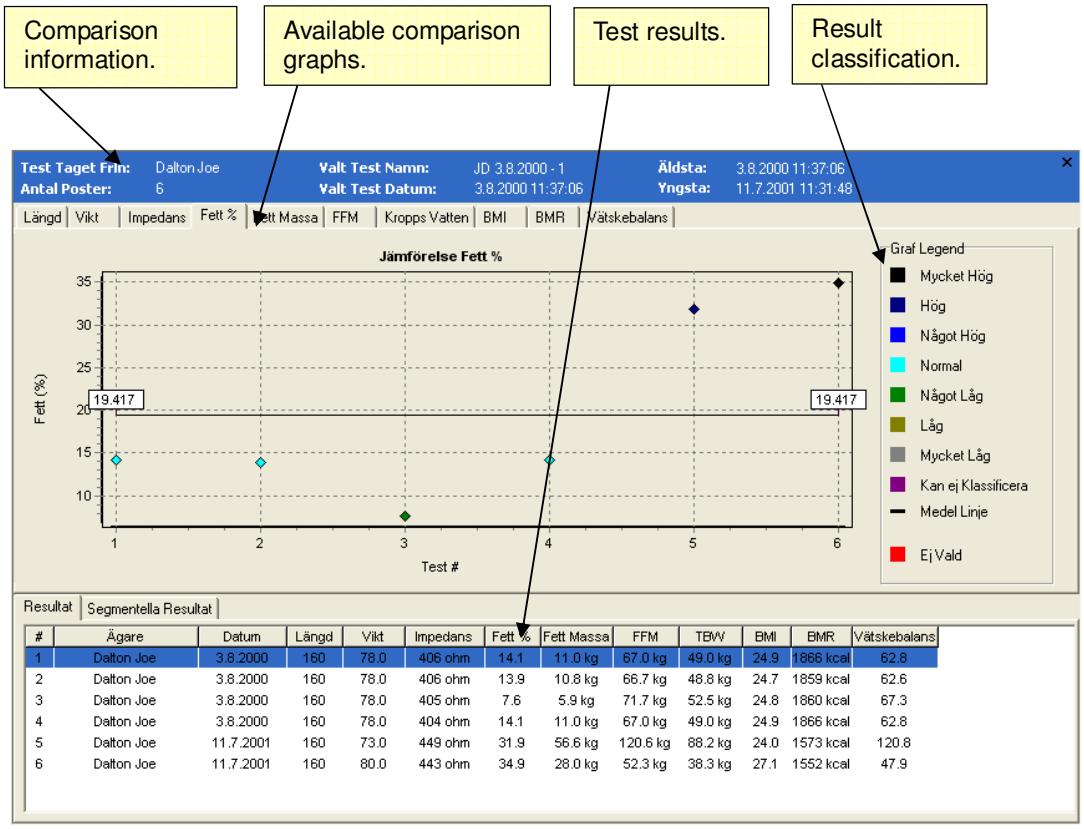
Figure 11: Test Analysis

In the header of the window there are the following information:

- Test name
- Test date
- Person name
- Date of birth
- Gender
- Test supervisor
- Additional info

Different kind of test result graphs are available depending on the model used in the test. All available test results are listed on the right side list. Printouts will include six selectable graphs.

6.6 Comparison



#	Ägare	Datum	Längd	Vikt	Impedans	Fett %	Fett Massa	FFM	TBW	BMI	BMR	Vätskebalans
1	Dalton Joe	3.8.2000	160	78.0	406 ohm	14.1	11.0 kg	67.0 kg	49.0 kg	24.9	1866 kcal	62.8
2	Dalton Joe	3.8.2000	160	78.0	406 ohm	13.9	10.8 kg	66.7 kg	48.8 kg	24.7	1859 kcal	62.6
3	Dalton Joe	3.8.2000	160	78.0	405 ohm	7.6	5.9 kg	71.7 kg	52.5 kg	24.8	1860 kcal	67.3
4	Dalton Joe	3.8.2000	160	78.0	404 ohm	14.1	11.0 kg	67.0 kg	49.0 kg	24.9	1866 kcal	62.8
5	Dalton Joe	11.7.2001	160	73.0	449 ohm	31.9	56.6 kg	120.6 kg	88.2 kg	24.0	1573 kcal	120.8
6	Dalton Joe	11.7.2001	160	80.0	443 ohm	34.9	28.0 kg	52.3 kg	38.3 kg	27.1	1552 kcal	47.9

Figure 12: Comparison of Tests

In the header of the window there are the following information:

- Where the tests have been taken from
- Number of items
- Selected test name
- Selected test date
- Oldest test date
- Latest test date

Different kind of test result graphs are available depending on the test results. Printouts will include eight selectable graphs.

6.7 Person's Test History

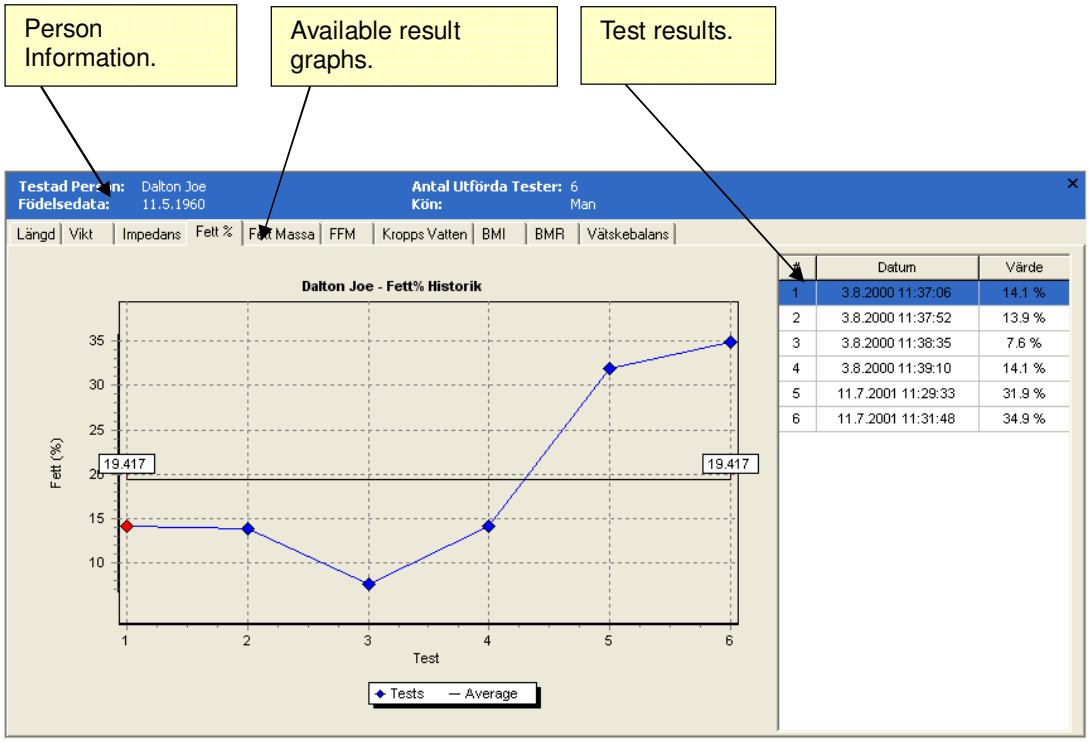


Figure 13: Test History

In the header of the window there are the following information:

- Person name
- Date of birth
- Number of tests
- Gender

Different kind of test result graphs are available depending on the test results. Printouts will include eight selectable graphs.