



DEMASvis

visualisation of your measuring data V 1.18

Operating Manual

Key Features:

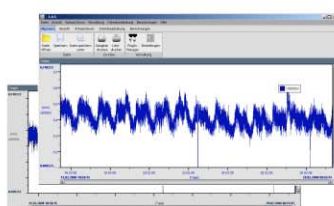
- Graphical display of values - multiparameter graphic
- Graphs with zoom- and crosshair function
- Listing of values in table form
- Single values with date and time
- Daily calculations of mean- and extreme values (other intervals possible)
- Conversions using mathematical functions
- Entering of notes and comments
- Automatic correction of graphs and data sheets using manual control values
- Print-outs of diagrams and tables
- Plot routines
- Export of data in various formats (e.g. ASCII)
- Import of alien data
- Executable under Microsoft Windows 95/98/2000, Windows NT 4.0, Windows XP, Windows Vista, Windows 7.0



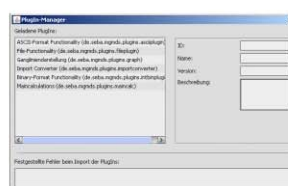
use on Tablet-PC



use on Desktop PC



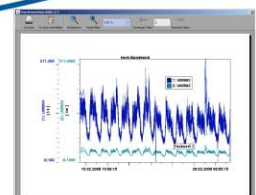
Example of file in graphical display



Plugin-Manager



Entering of Control values



Print-preview



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DEMASvis user manual

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DEMASvis Software version 1.00 and higher
User manual version 1.00

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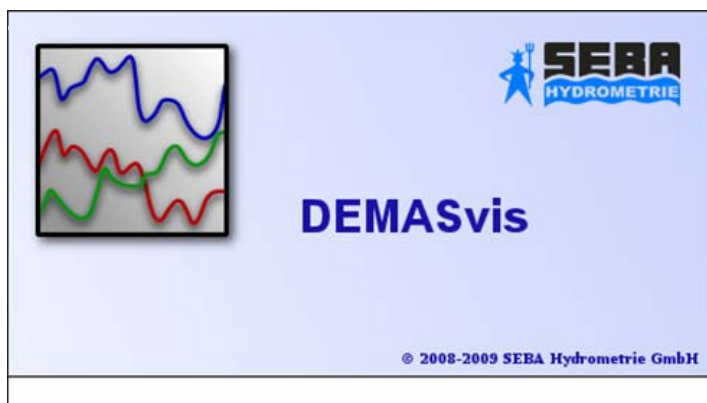
www: www.seba.de

1. Software Installation

For installation of the software **DEMASvis** insert the software-CD in the CD/DVD drive of your computer. The installation now will be started automatically.

Please follow the instructions that will show up on your computer monitor during installation. – After installation the program **DEMASvis** can be started.

Fig. 1 – Opening Logo after Software Installation



Get started after Installation – Essential Steps

- how to get a functional overview → ref. to **chpt. 2**
- how to open desired data file → ref. to **chpt. 3**
- how to modify display settings and parameters → ref. to **chpt. 4.4**
- how to save data file → ref. to **chpt. 6.1.4**
- how to activate different viewing functions → ref. to **chpt. 6.2**
- how to use the zoom functions → ref. to **chpt. 6.3**
- how to perform value corrections on graph – modify values → ref. to **chpt. 6.4**
- how to change data file or graph characteristics → ref. to **chpt. 6.6.4**
- how to exit software → ref. to **chpt. 6.8.3**

2. Function Survey

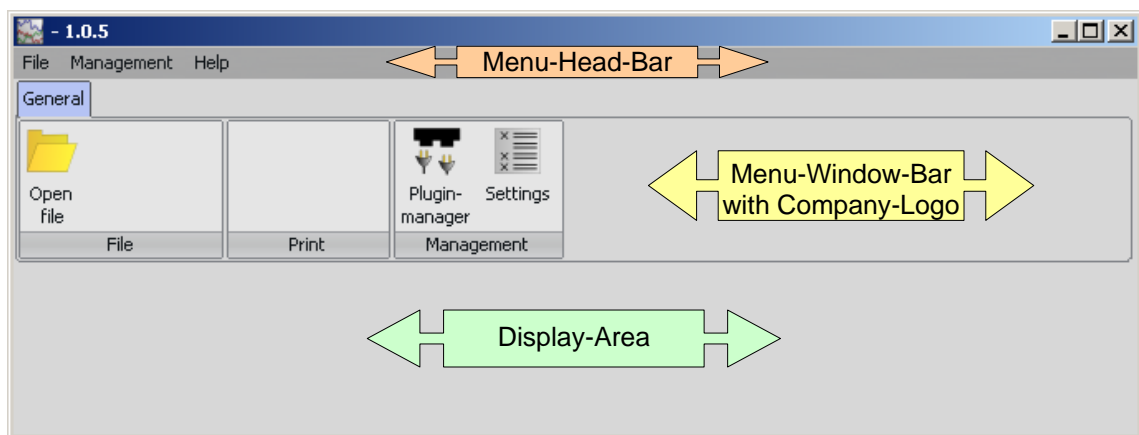
Survey of all functions within the menus of Head-Bar and Window-Bar.

All functions can be performed on the Menu-Head-Bar as well as on the Menu-Window-Bar due to their identical functionality.

After starting the **DEMAsvis** software the surface of the entry mask will be opened. It is separated in the three following areas:

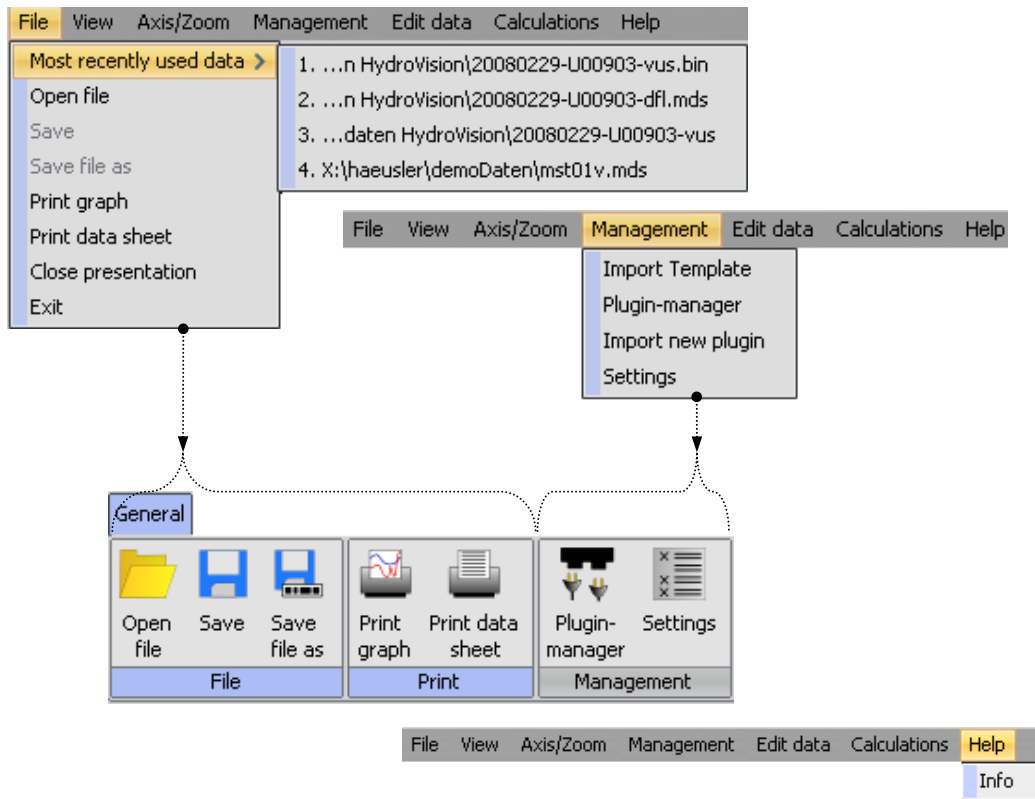
- Menue-Head-Bar *(corresponding function also in the Menu-Window-Bar)*
- Menue-Window-Bar *(corresponding function also in the Menu-Head-Bar)*
- Display-Area

Fig. 2 – Function- and Display-Area



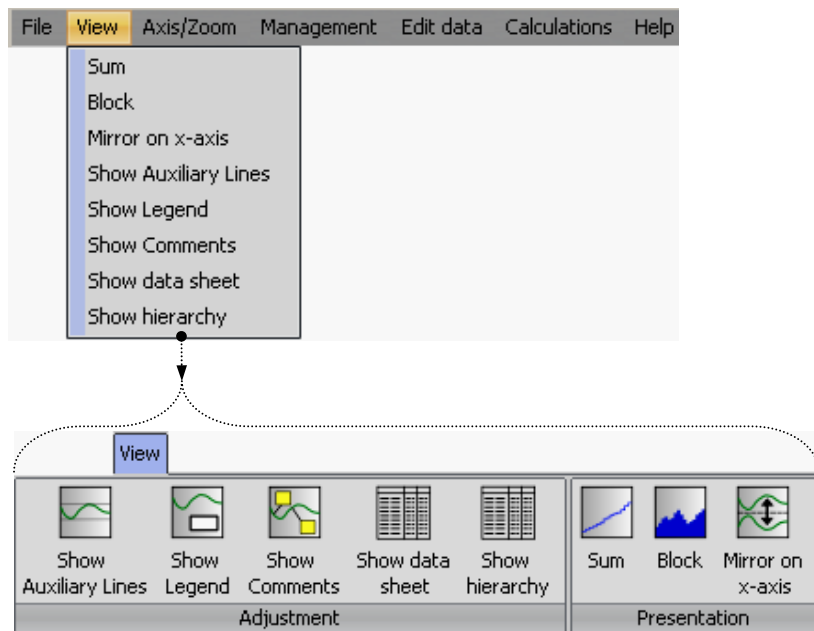
2.1. Function Survey „File“ – „Management“ – „Help“

Fig. 3 – Menu “File”, “Management” and Help



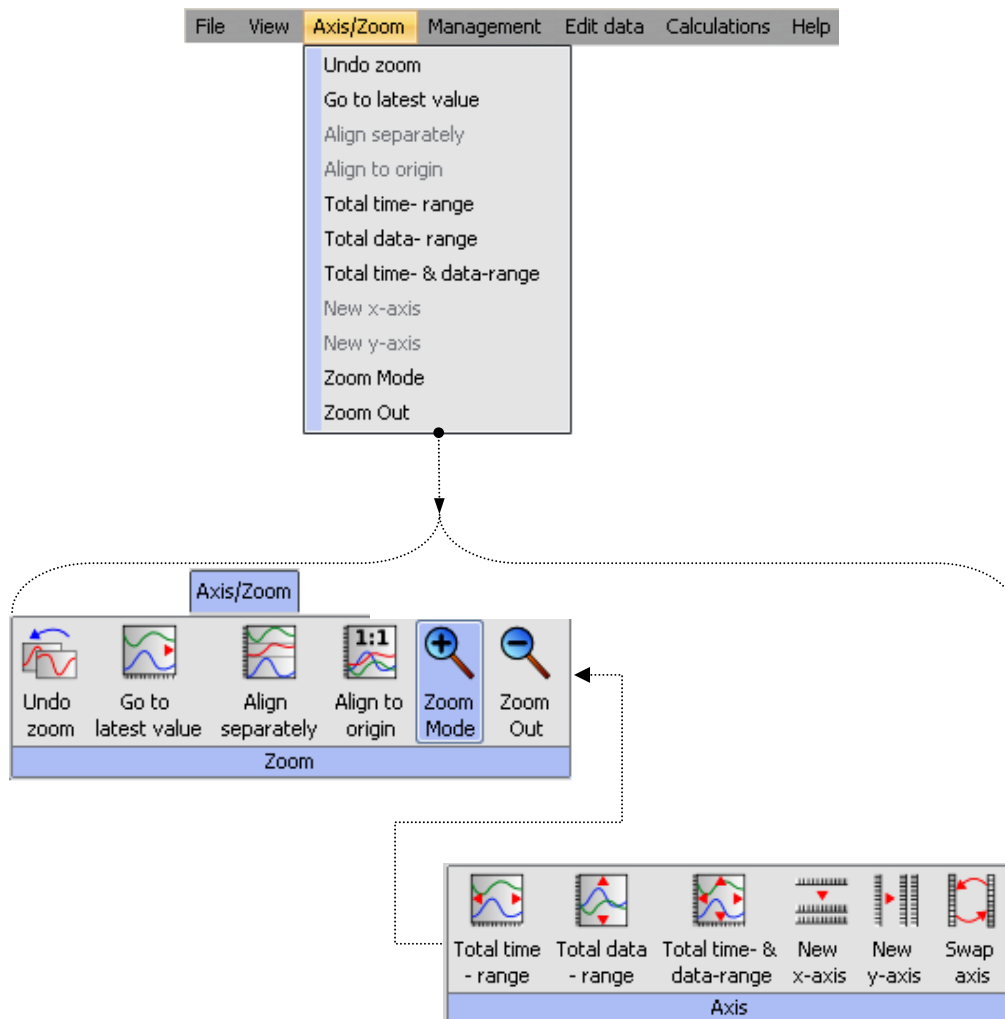
2.1. Function Survey „View“

Fig. 4 – Menu “View”



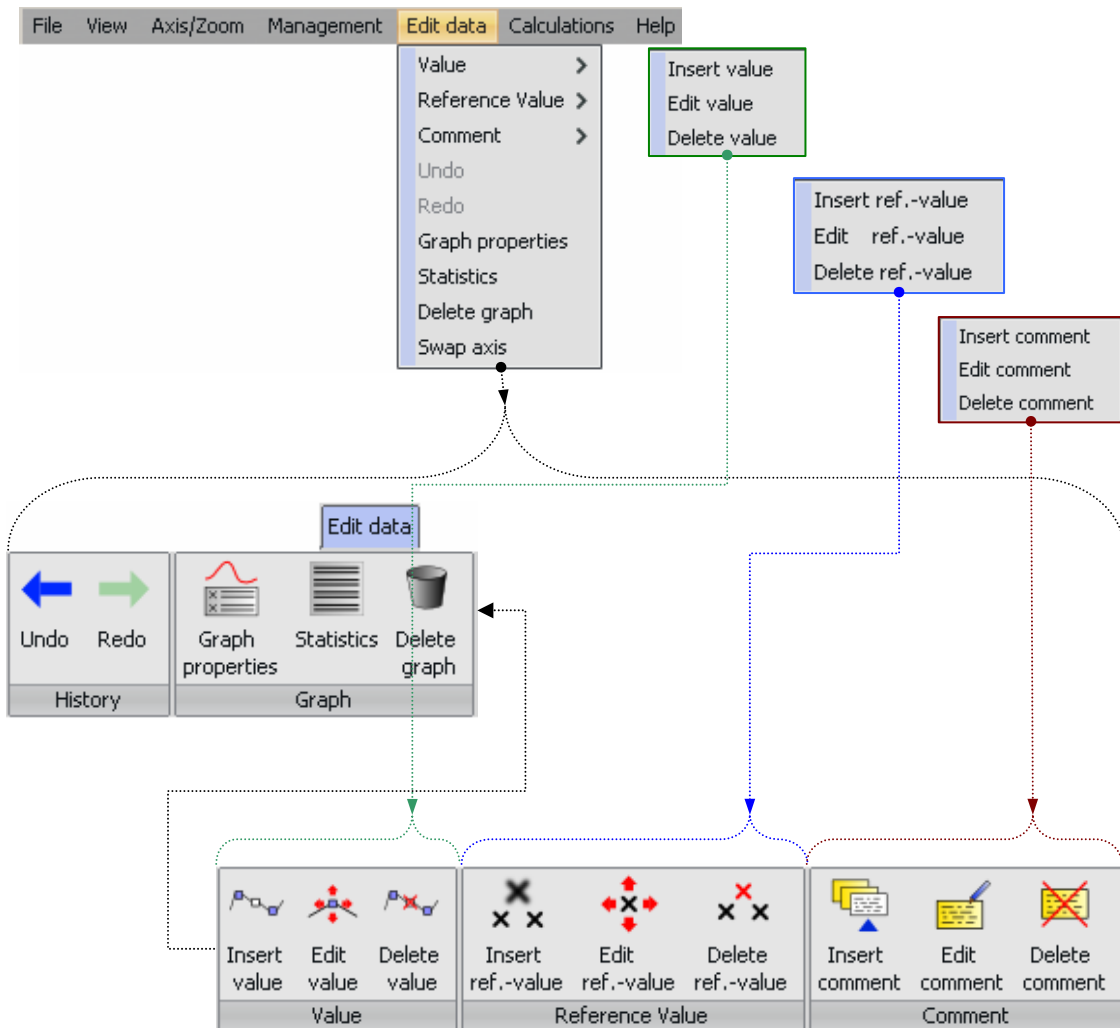
2.2. Function Survey „Axis/Zoom“

Fig. 5 – Menu “Axis/Zoom”



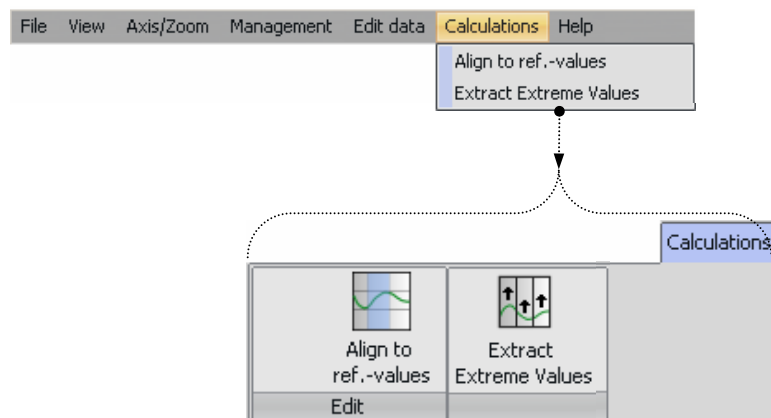
2.3. Function Survey „Edit Data“

Fig. 6 – Menu “Edit Data”



2.4. Function Survey „Calculations“

Fig. 7 – Menu “Calculations”

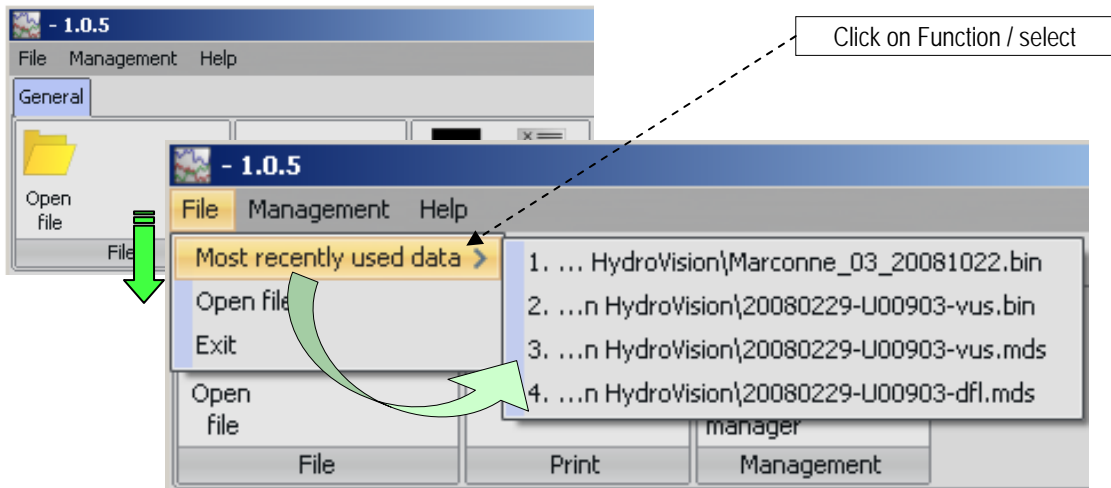


3. Open File

3.1. Display Most recently used data

By this function name and path of **Most recently used data** will be listed (max. 4 files).

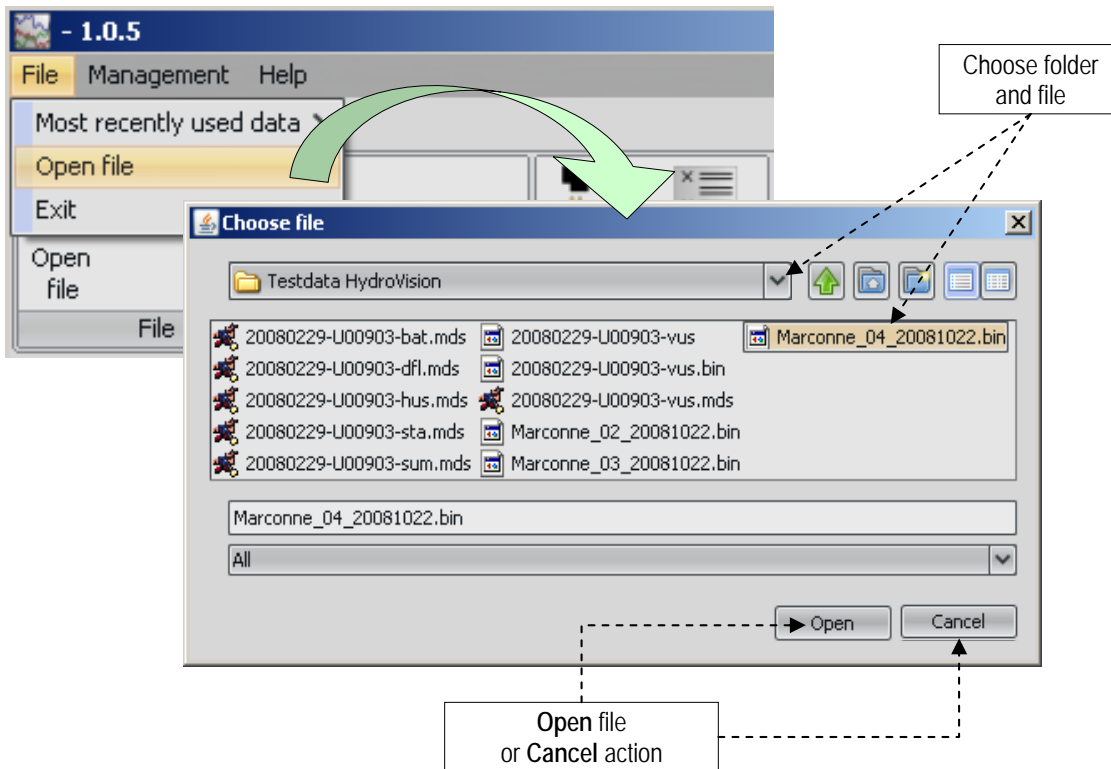
Fig. 8 – Most recently used data



3.2. Choose and open file

Opening file rather selection from chosen folder or subdirectory

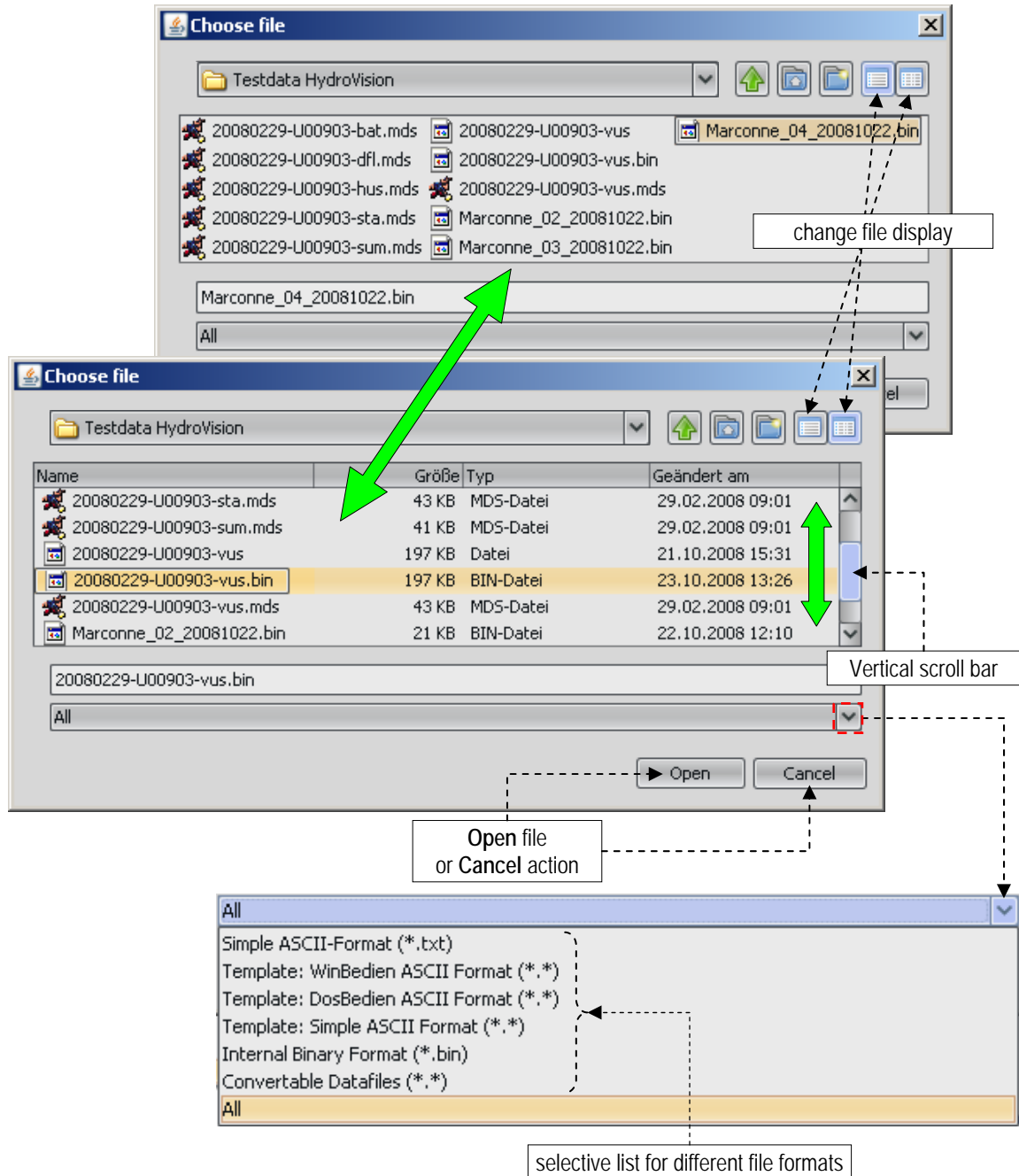
Fig. 9 – Choose and open file



3.2.1. Window functions of “Choose file“

If a measured data file shall be opened the following settings for displaying the file name are available.

Fig. 10 – Display function for “Choose file“

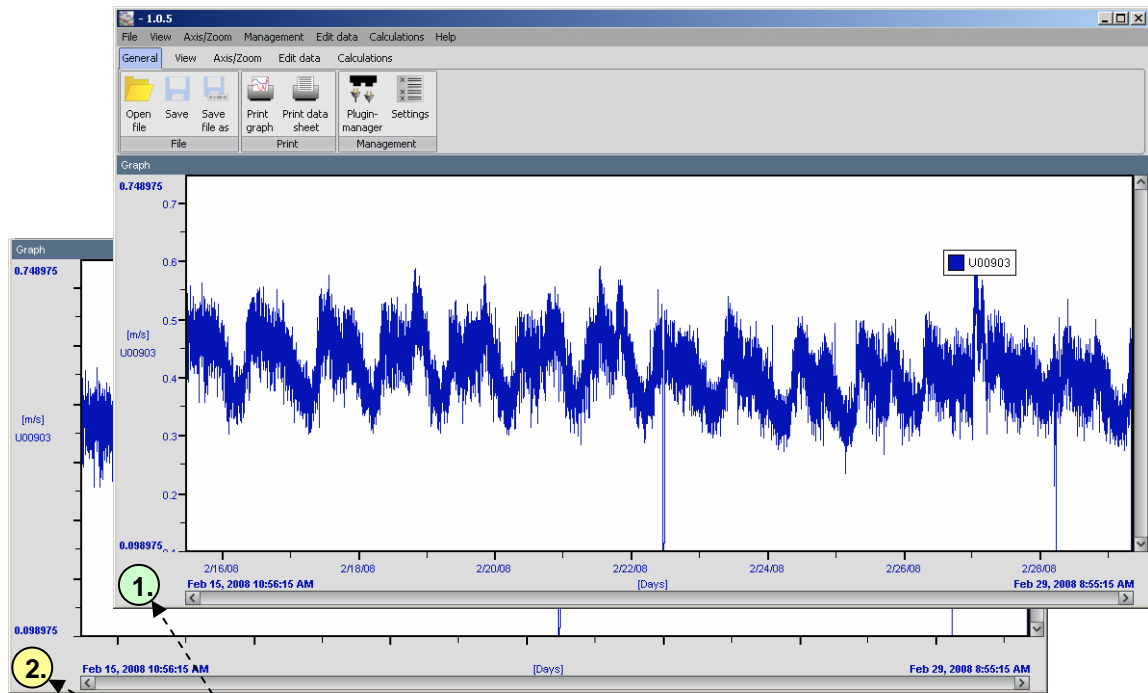


To open several files simultaneously: press/hold **Strg**; apply **left mouse key** and click on every desired single file.

To open a complete block of files: press/hold **Shift** key; apply **left mouse key** and click on first and last file of desired selection block

3.2.2. Common Display of an opened File

Fig. 11 – Display of opened File (example)



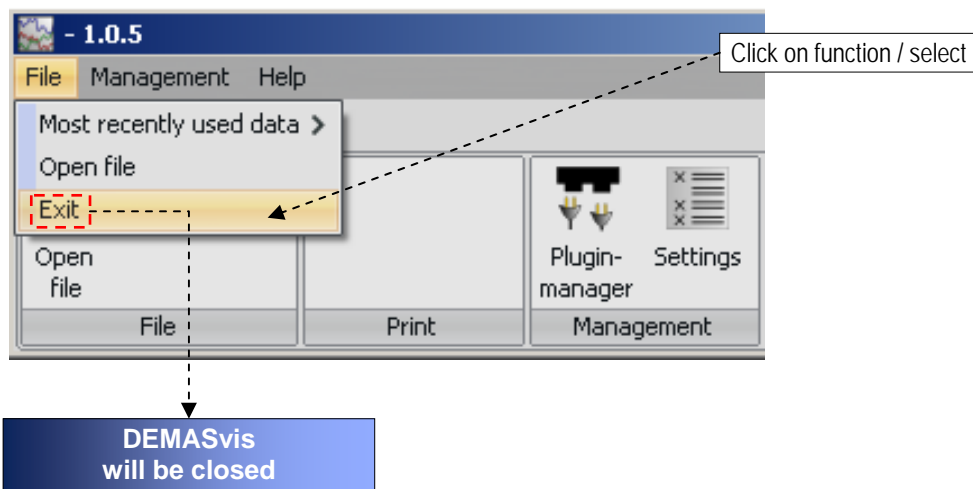
Setting: all graph values on the X/Y-Axis will be displayed (ref. to *chpt.4.4.3*)

Setting: only extreme graph values on the X/Y-Axis will be displayed (ref. to *chpt.4.4.3*)

3.3. Exit DEMASvis

Function to finish/close DEMASvis.

Fig. 12 – Closing “DEMASvis”



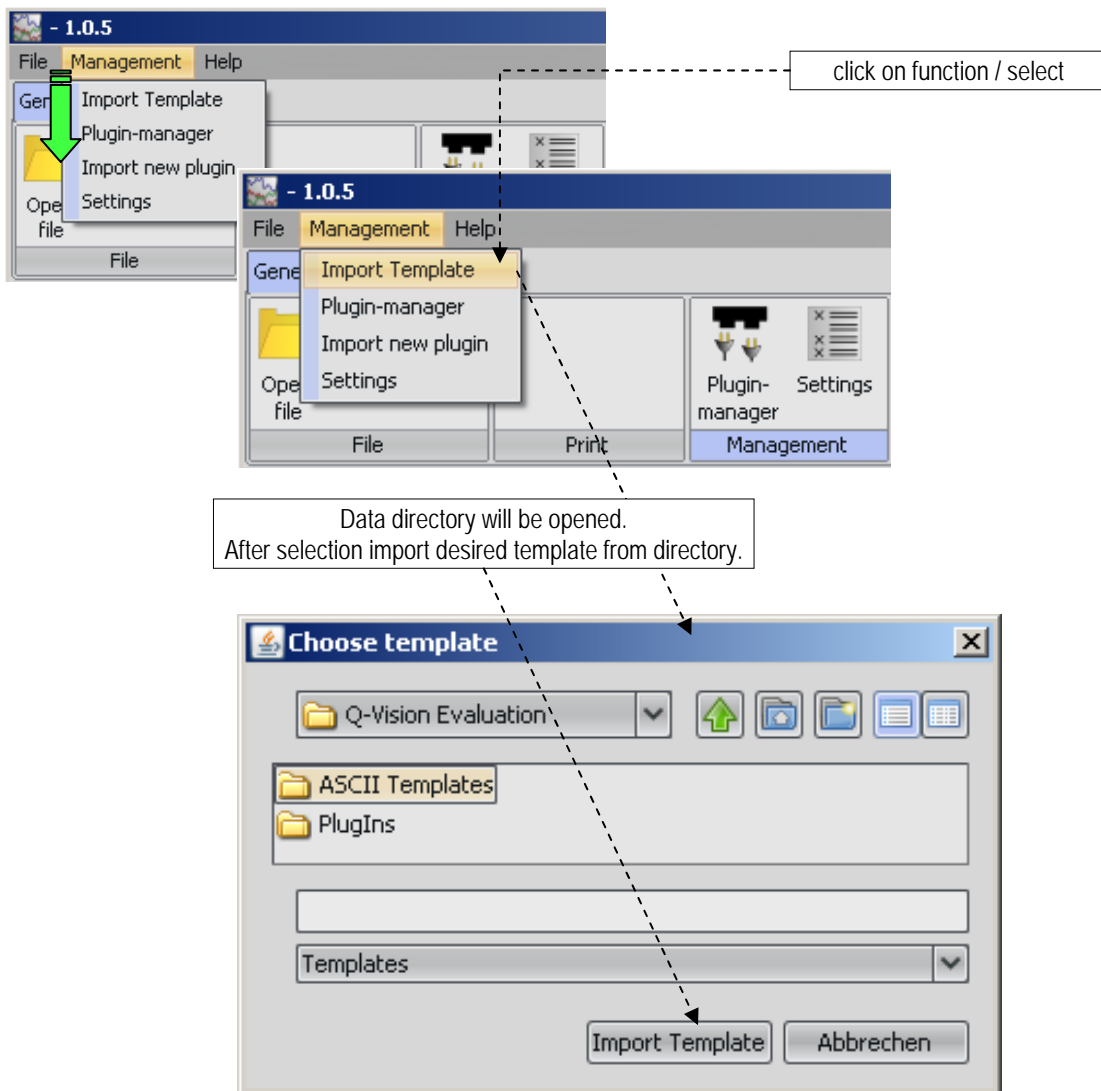
4. Functions of Menu-Header-Bar “Management“

In this session the individual **Management** functions are described.

4.1. Import Template

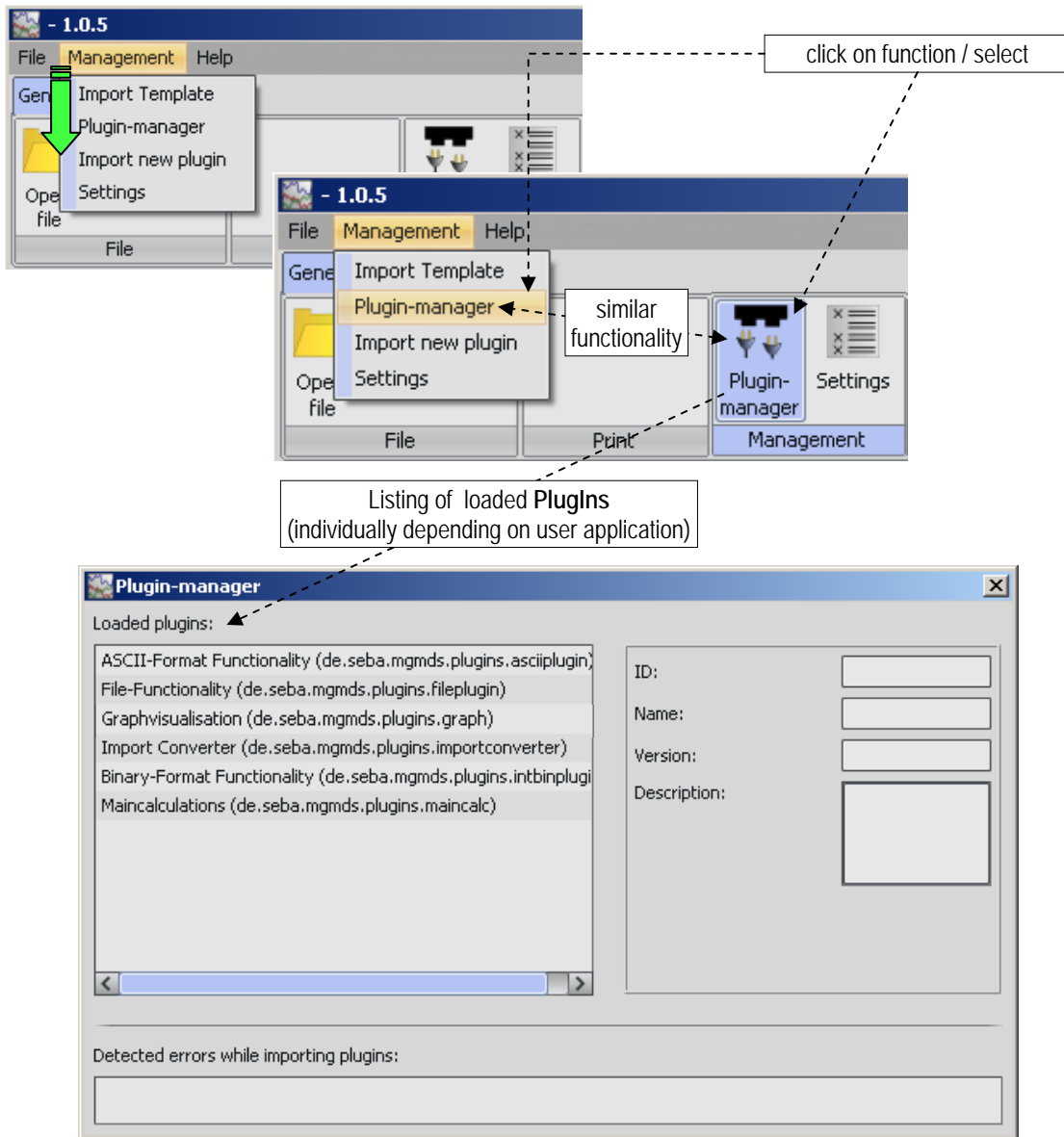
This function enables the import of ASCII-Templates to read new data formats. The templates will be provided by the software developer meeting the customer requirements. They templates will be stored at the users' site corresponding data system and can be imported into **DEMASvis** by the function **Import Template**.

Fig. 13 – Import Template



4.2. Plugin Manager

Fig. 14 – Plugin Manager



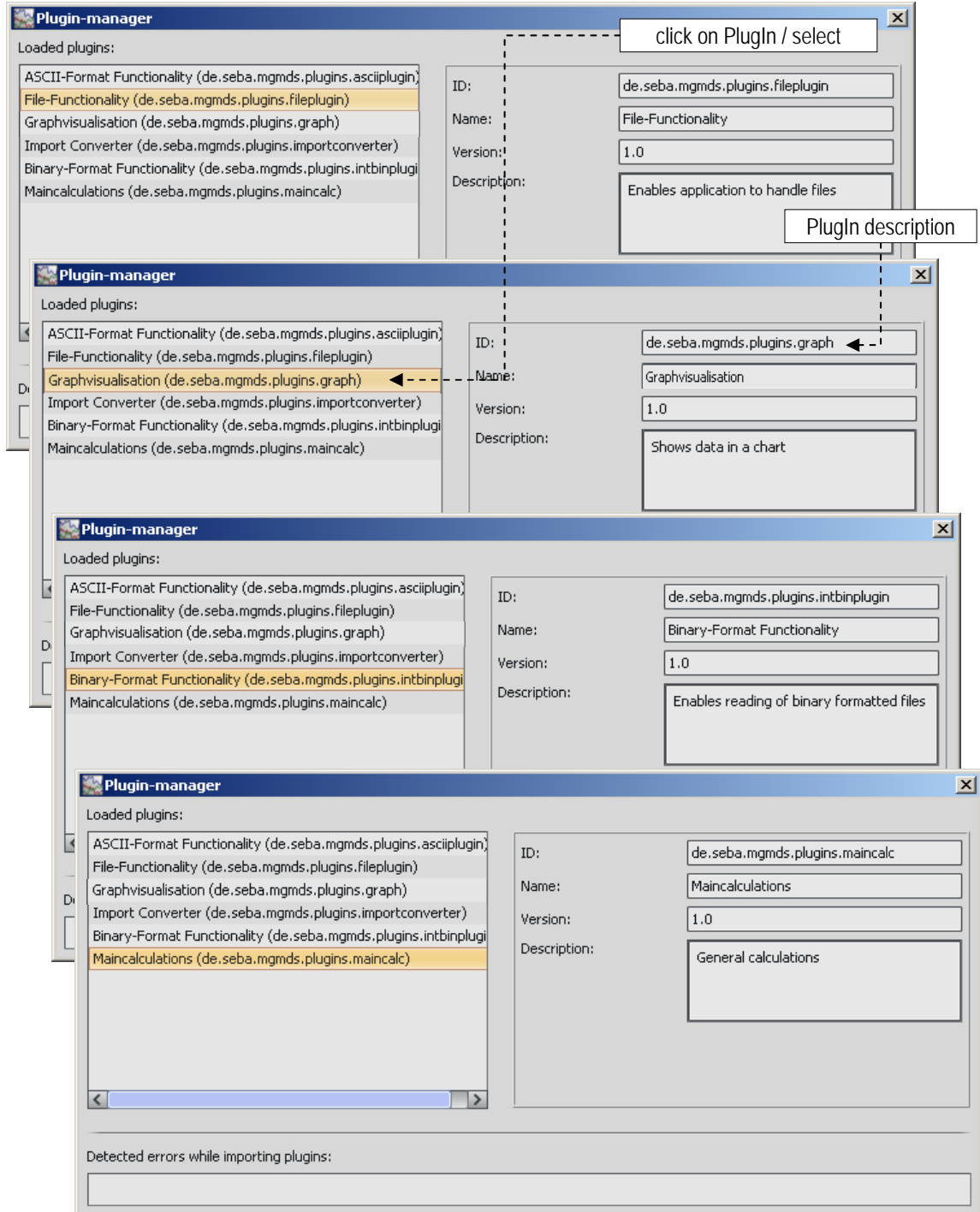
4.2.1. Definition of “PlugIn“

Plugins are program expansions which supplement the basic program by additional functions; e.g. specified calculation methods for measured values; further display options (e.g. wind rose view) or new data formats.

4.2.2. Plugin Examples and their Descriptions

Examples of individually loaded Plugins with their corresponding functional description e.g.: ID, name, version and general description

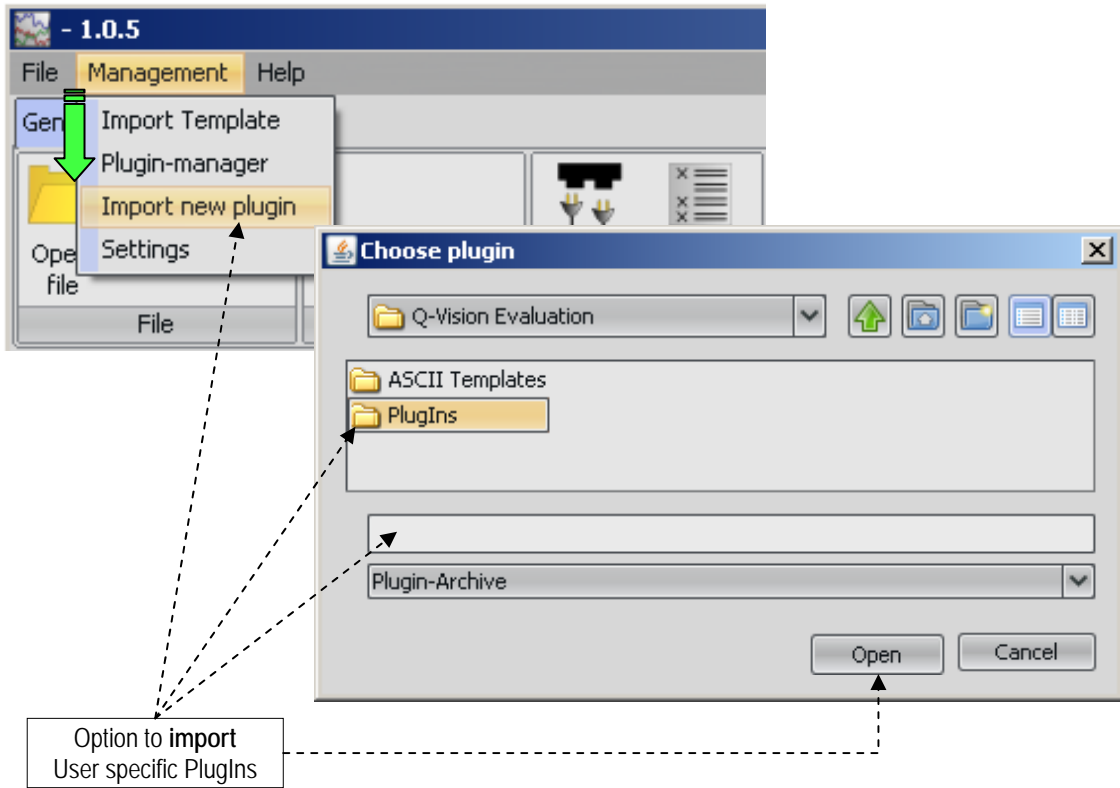
Fig. 15 – Plugin Examples



4.3. Importing new Plugins

This function enables to install further user specific Plugins.

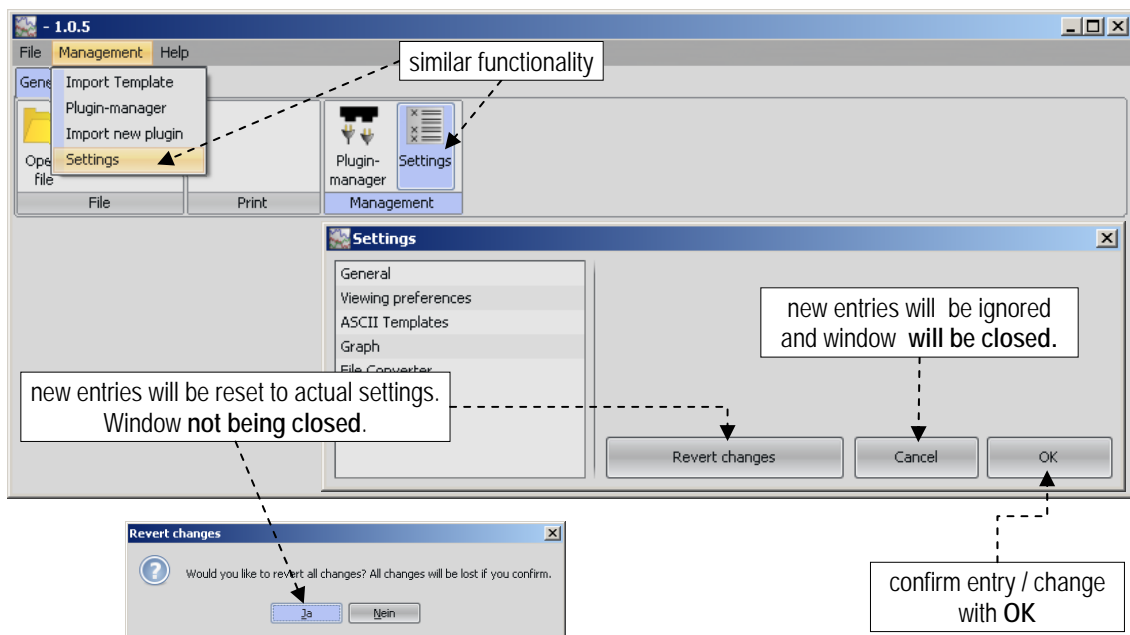
Fig. 16 – Import New Plugin



4.4. Settings

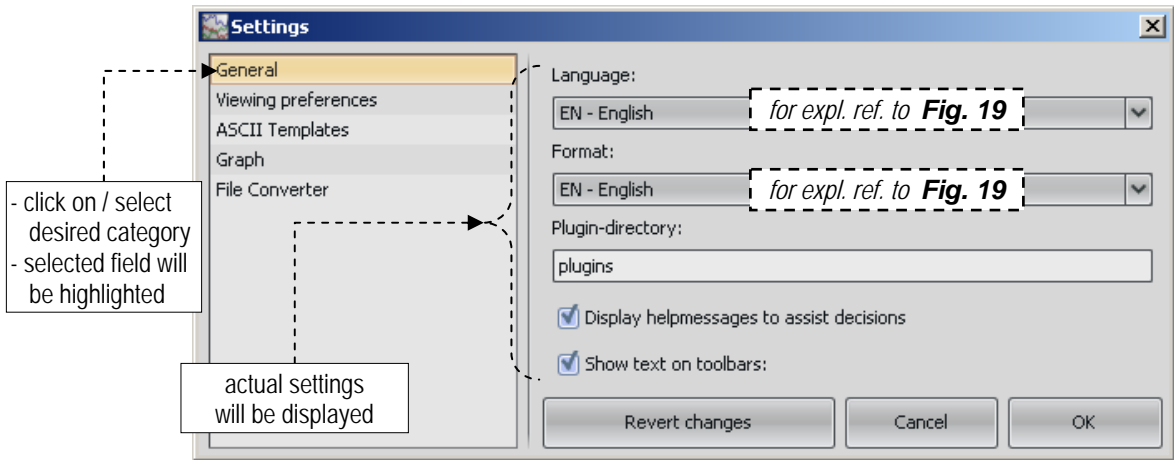
This function provides the individual settings for defined display parameters

Fig. 17 – Functions for “Settings“



4.4.1. Settings – “General“

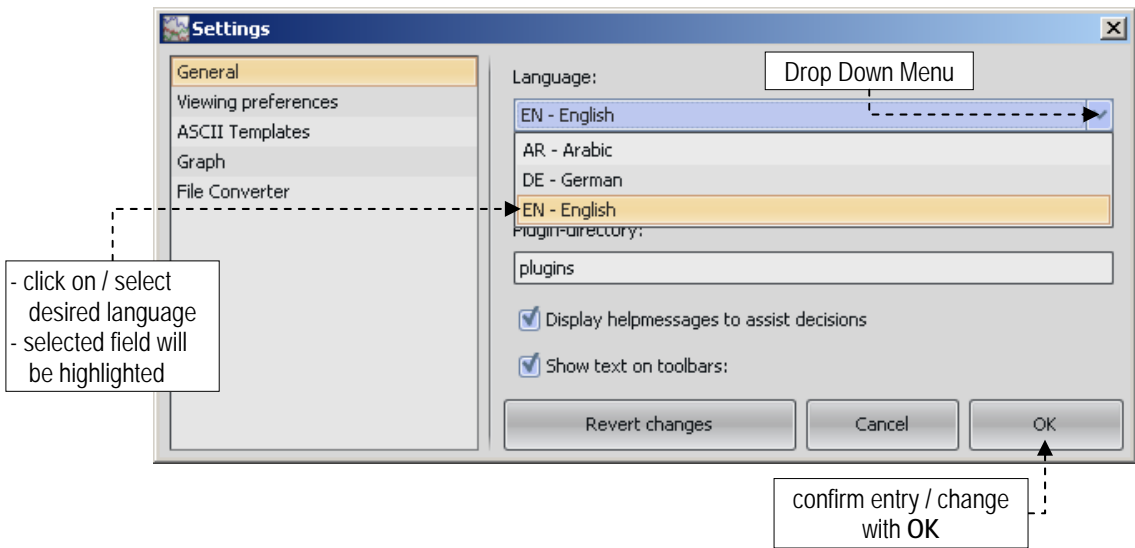
Fig. 18 – Settings – “General“



4.4.1.1. General – “Language“

Selection window to set up the language for displays on the user/program surface area.

Fig. 19 – General – “Language“ selection

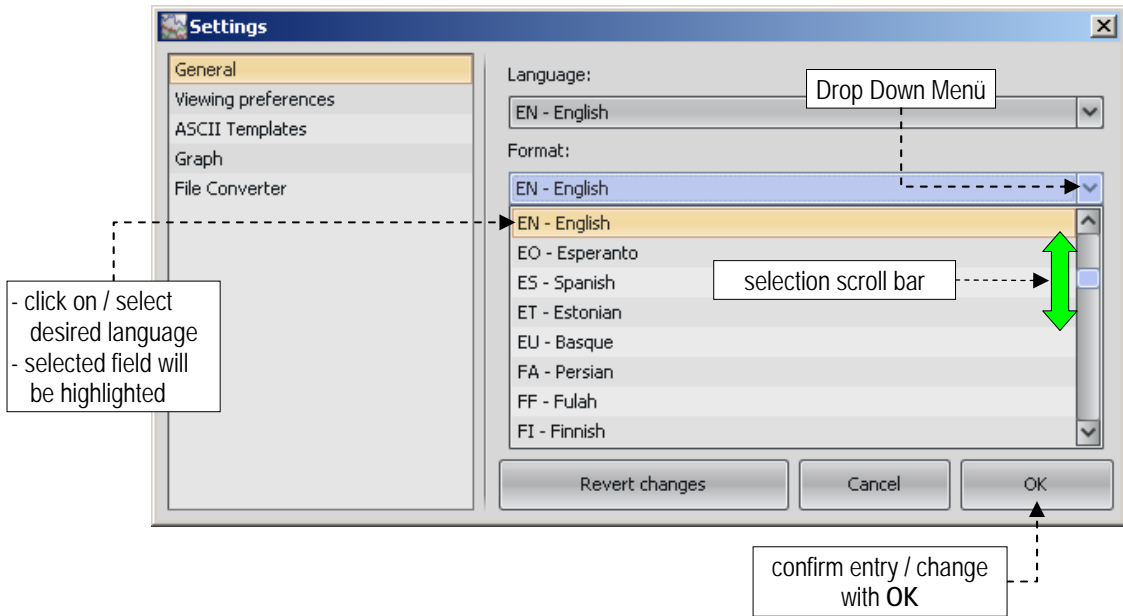


4.4.1.2. Format Selection

Selection window to set up date- and number-format

Example: German: 21.01.2009 (date) 5,123 (number)
English: 01/21/2009 (date) 5.123 (number)

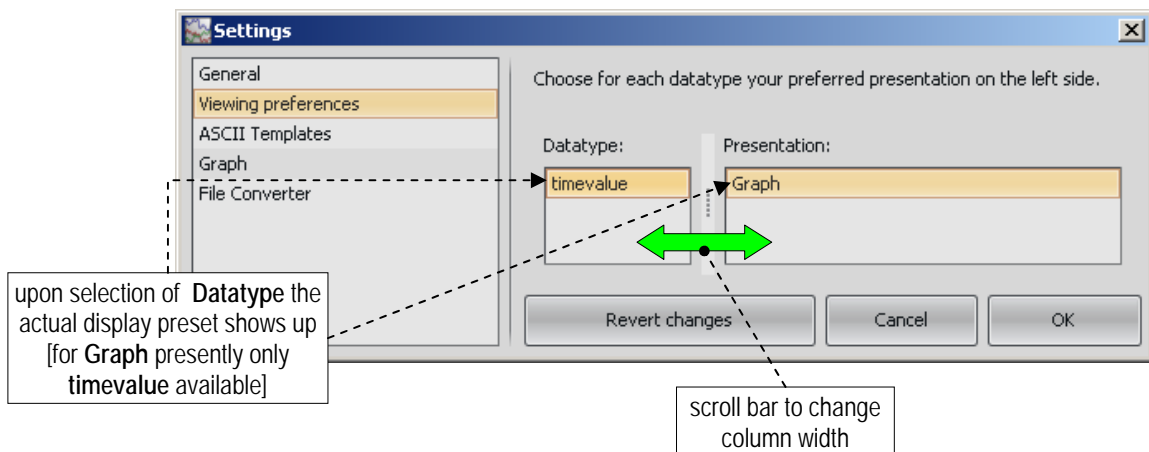
Fig. 20 – General – “Format” selection



4.4.2. Settings – “Viewing preferences”

Selection window to set up the preferred type of display.

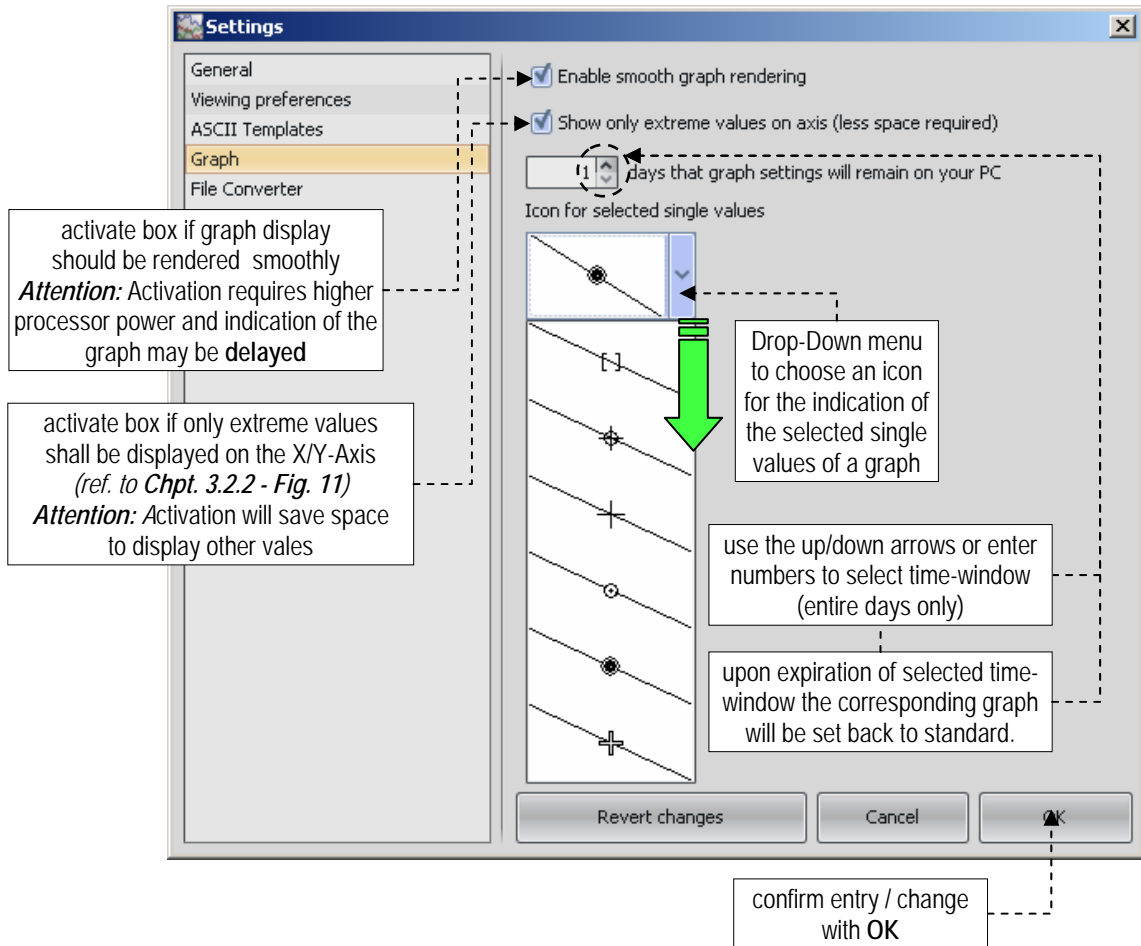
Fig. 21 – Settings – “Viewing preference”



4.4.3. Settings – “Graph “

This function provides the settings for further display modi of the graph.

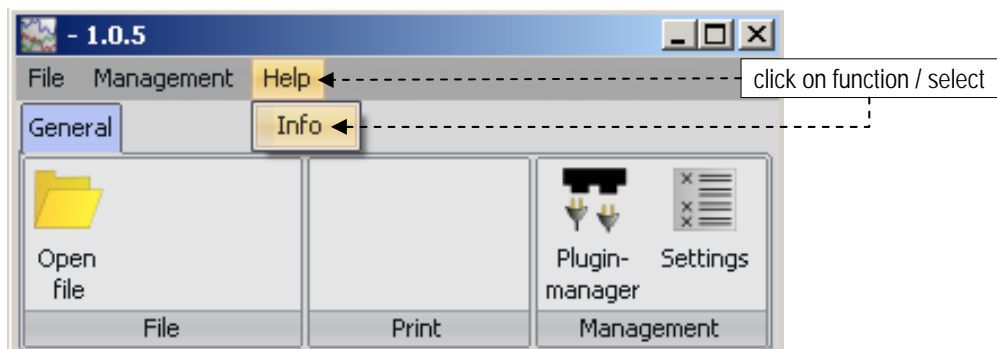
Fig. 22 – Settings – “Graph“



5. Function of Menu-Header-Bar – “Help“

By clicking on the header bar function **Help** and the dialog field **Info**, additional information regarding present software will be provided.

Fig. 23 – Help – “Info“



6. Functions of Menu-Window-Bar “Graph“

The functions described as follows initially will be available if one or more measured data files with their corresponding graphs have been opened.

6.1. Drop-Down Menu – “Data“

Further functions of the Drop-Down Menü **Data** after opening one or more measured data files and their corresponding graphs.

Fig. 24 – Data – print “Graph“ and “Data Sheet“

The grey displayed functions will become active if any modifications on the graph have been made.

ref. to chapter 6.1.2.

ref. to chapter 6.1.2.

display selective list – choose the way and the type of information of a graph that shall be presented on the print-out

further explanations ref. to chapter 6.1.1.

Scroll bar to select type and size of font

6.1.1. Print Graph – Generation an Usage of a Template

For printing graphs in a defined form the dialog window **Print** enables to generate templates with certain presentation criterias.

- **Presentation :**
 - Min- / Max- / Average values
 - Thick lines (better colours)
 - Show Legend
 - Show Comments
 - Font (normal = for titel oder measured values)
 - Font (small = for comments, header/footer)
- Pre-settings for **Header/Footer** (separate window will be opened – *ref. to Fig. 25*)
- The function **Preview** enables to display the to be expected printed presentation of the print-out. (*ref. to example Fig. 26*)
- With the function **New template** and the definition of a filename the generation of a new template will be initialized. After choosing the desired presentation criterias the settings now permanently may be stored with the function **Save template** under the prior defined new template filename. By using this template print-outs of selected graphs or data sheets now can be generated.
- By using **Save template as** an existing but modified template can be saved with a new defined template filename.
- The usage of **Delete template** will earase a chosen template from the directory.

Fig. 25 – Print Graph or Data Sheet – “Header and Footer”

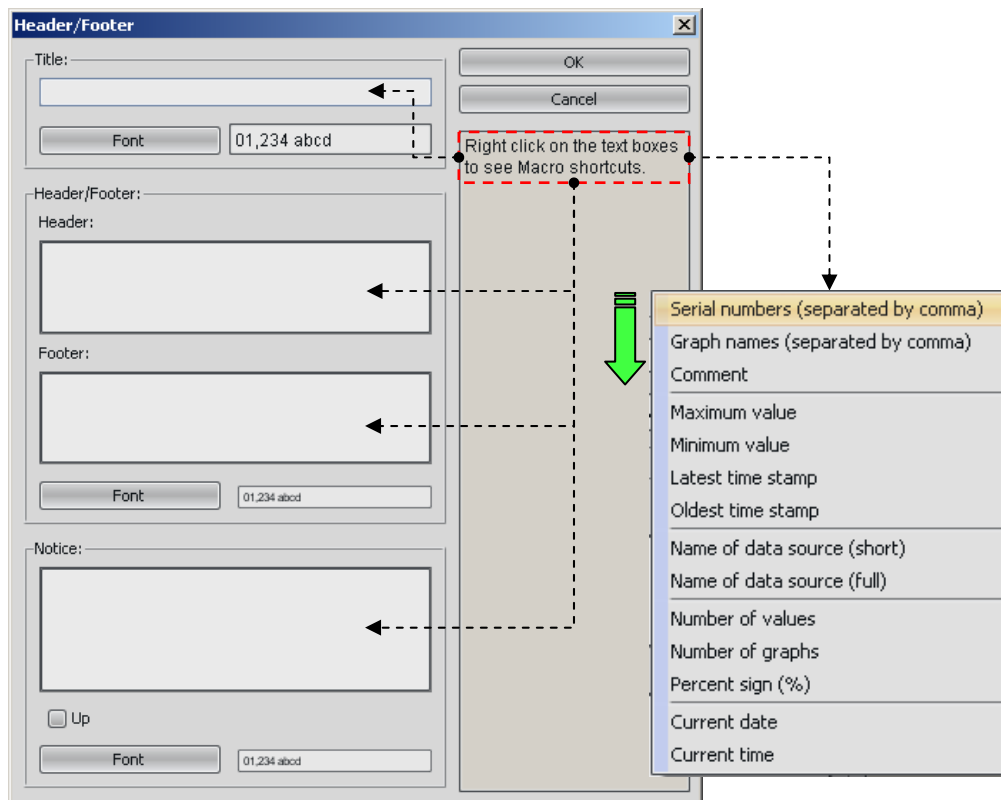
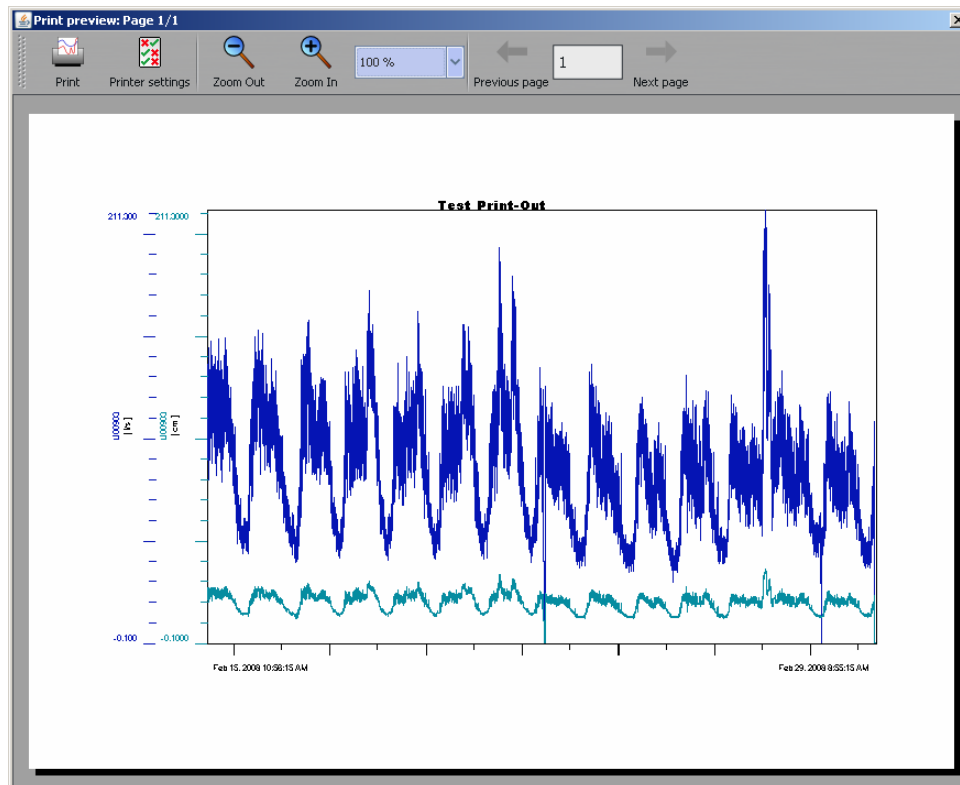


Fig. 26 – Print Graph – Example “Print Preview”



6.1.2. Print Data Sheet - Generation an Usage of a Template

For printing the measured values of one or more graphs in a defined form the dialog window **Print** (ref. to **Fig. 27**) enables to generate templates with certain presentation criterias.

- **Range to print :**
 - All (all values of all all displayed graphs will be printed out)
 - Current selection (the selected resp. actual marked graph completely will be printed out – (ref. to **chpt. 6.4.1**).
 - Userdefined (manual entry of the first/last value in the coloured highlighted blocks **From/to**)
- Pre-settings for **Header/Footer** (separate window will be opened – ref. to **Fig. 25**)
- **Presentation:**
 - Font selection
 - Option if header of corresponding graph also shall be printed out
- **Extrem values:**
 - Only extreme values (selection criteria if only extreme values shall be printed out)
 - Drop-Down Menu (selection criteria to define the analysis interval for listing the extreme values)
- The function **Preview** enables to display the to be expected printed presentation of the print-out. (ref. to example **Fig. 28**)

- With the function **New template** and the definition of a filename the generation of a new template will be initialized. After choosing the desired presentation criterias the settings now permanently may be stored with the function **Save template** under the prior defined new template filename. By using this template print-outs of selected graphs or data sheets now can be generated.
- By using **Save template as** an existing but modified template can be saved with a new defined template filename.
- The usage of **Delete template** will earase a chosen template from the directory.

Fig. 27 – Print Data Sheet

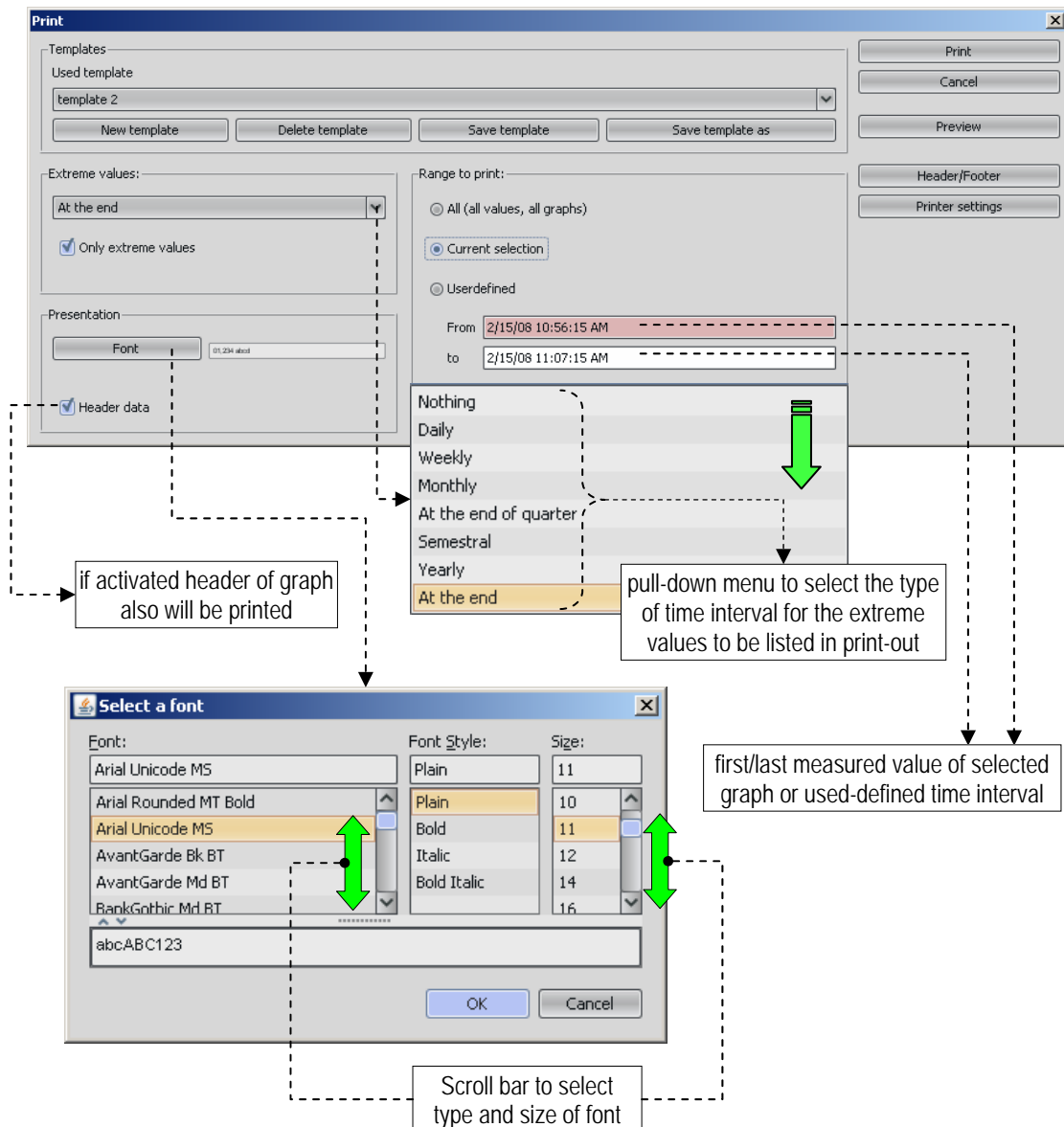


Fig. 28 – Print Data Sheet – Example “Pre-View”

Date/Time	U00903	U00903	
2/15/08 10:56:15 AM	25.0000 cm	133.400 V/s	analysis area - actual selection or userdefined
2/15/08 10:57:15 AM	24.3000 cm	115.500 V/s	
2/15/08 10:58:15 AM	24.4000 cm	124.300 V/s	
2/15/08 10:59:15 AM	25.1000 cm	122.800 V/s	
2/15/08 11:00:15 AM	26.5000 cm	118.000 V/s	
2/15/08 11:01:15 AM	26.7000 cm	133.900 V/s	
2/15/08 11:02:15 AM	26.6000 cm	132.900 V/s	
2/15/08 11:03:15 AM	25.9000 cm	135.600 V/s	
2/15/08 11:04:15 AM	25.7000 cm	125.800 V/s	
2/15/08 11:05:15 AM	27.2000 cm	136.400 V/s	
2/15/08 11:06:15 AM	26.7000 cm	136.000 V/s	
2/15/08 11:07:15 AM	25.8000 cm	126.300 V/s	
2/15/08 11:08:15 AM	24.5000 cm	119.400 V/s	
2/15/08 11:09:15 AM	23.6000 cm	119.300 V/s	
2/15/08 11:10:15 AM	22.5000 cm	107.400 V/s	
Minimum:	22.5000 cm	107.400 V/s	extreme values – at the end of analysis area
Average:	25.3667 cm	125.800 V/s	
Maximum:	27.2000 cm	136.400 V/s	
Sum:	380.5000 cm	1887.000 V/s	

6.1.3. Print Data Sheet – Printing of selected Measured values

Defined ranges of measured values can be printed out if they were pre-selected from the value list. (For all graphs the measured values within the selected time interval will be printed out)

Fig. 29 – Print Data Sheet – Selected Measured values

The screenshot shows the 'Print' dialog box in the foreground. The 'Print data sheet' option is selected. The 'Range to print' section is set to 'Userdefined' with a time range from 2/15/08 10:59:15 AM to 2/15/08 11:15:15 AM. In the background, the 'Data sheet' window displays a table of measured values for U00903. A red dashed box highlights the rows corresponding to the selected time interval. Callouts point to the 'Print data sheet' button and the first/last rows of the selected interval in the data sheet.

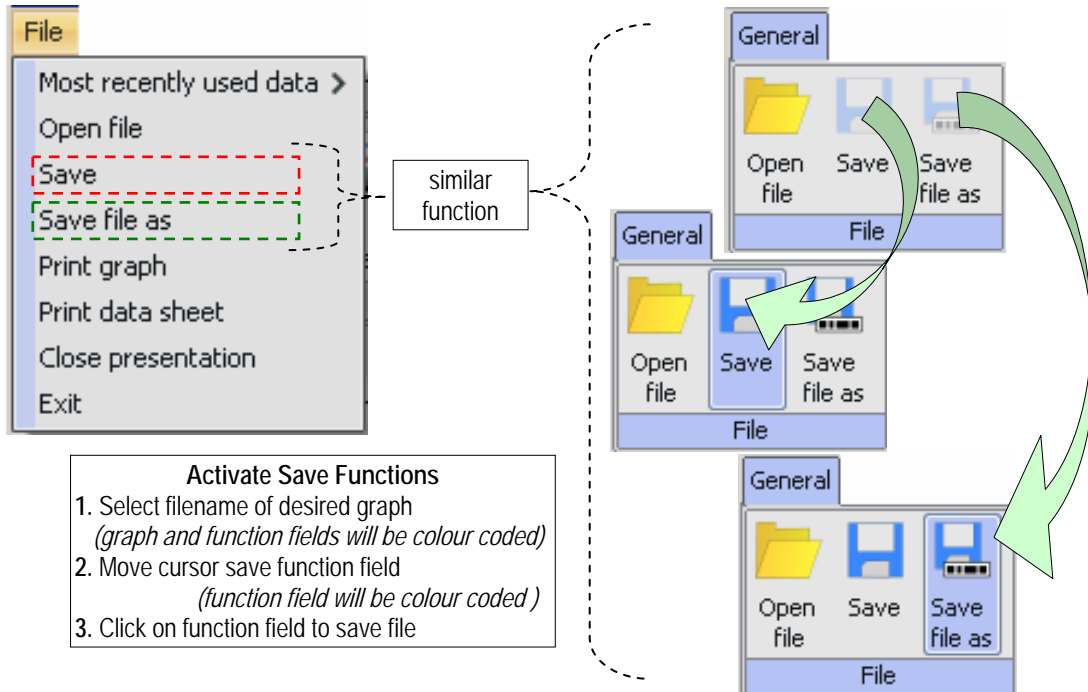
6.1.4. Save Files

These functions only will become active if a file was opened and/or an opened file was changed and should be saved with a new filename.

Prior to that the corresponding graph has to be selected from the display area as shown in *chpt. 6.4.1, Fig. 42.*

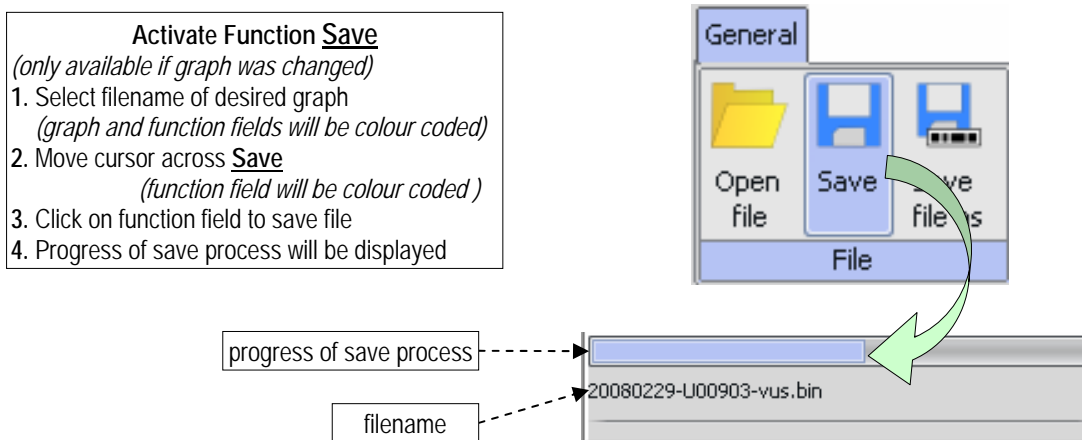
6.1.4.1. Activate Save and Save File as

Fig. 30 – General – “Save” and “Save File as”



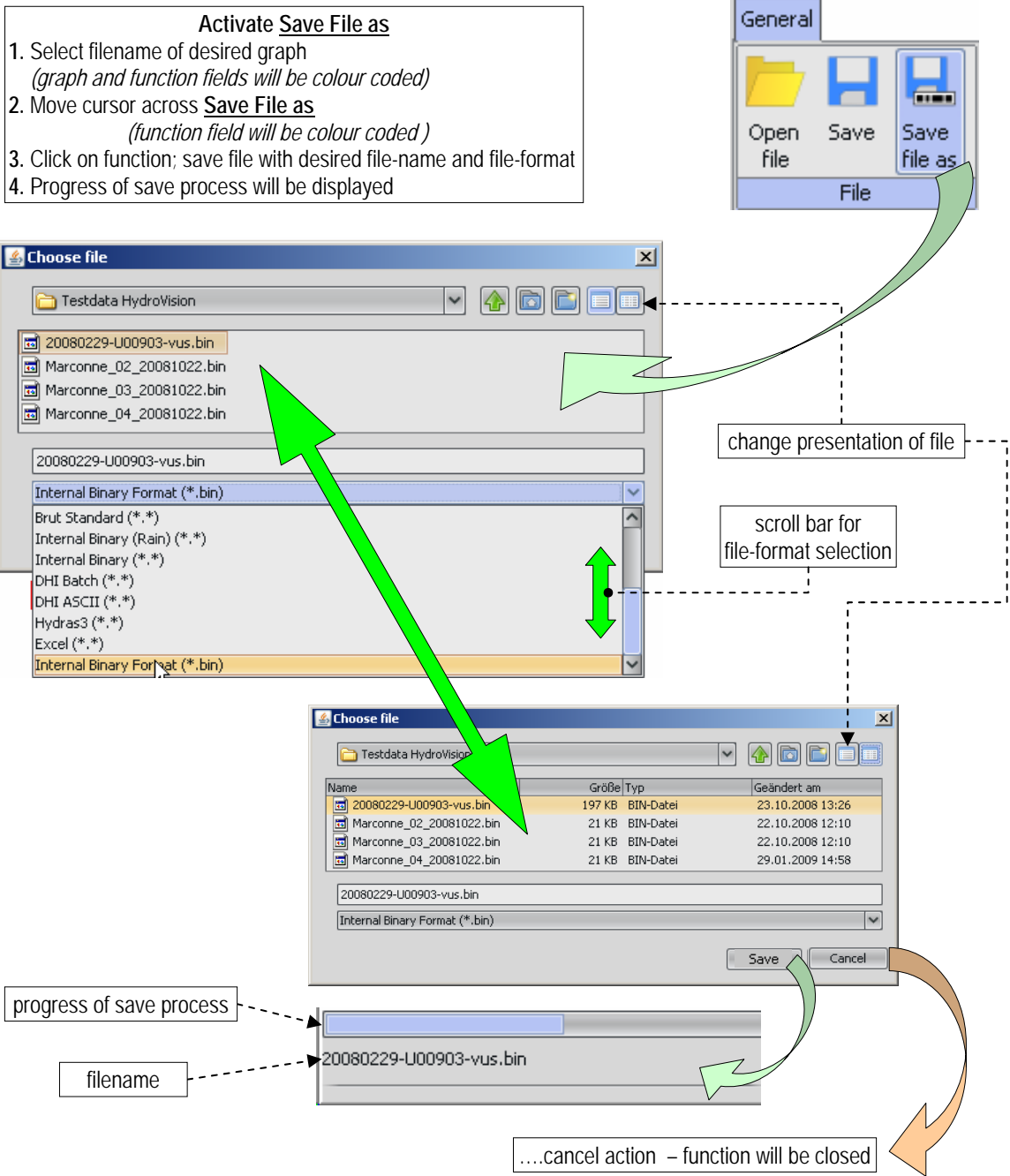
6.1.4.2. Save File

Fig. 31 – General – “Save”



6.1.4.3. Save File as

Fig. 32 – General – “Save File as”

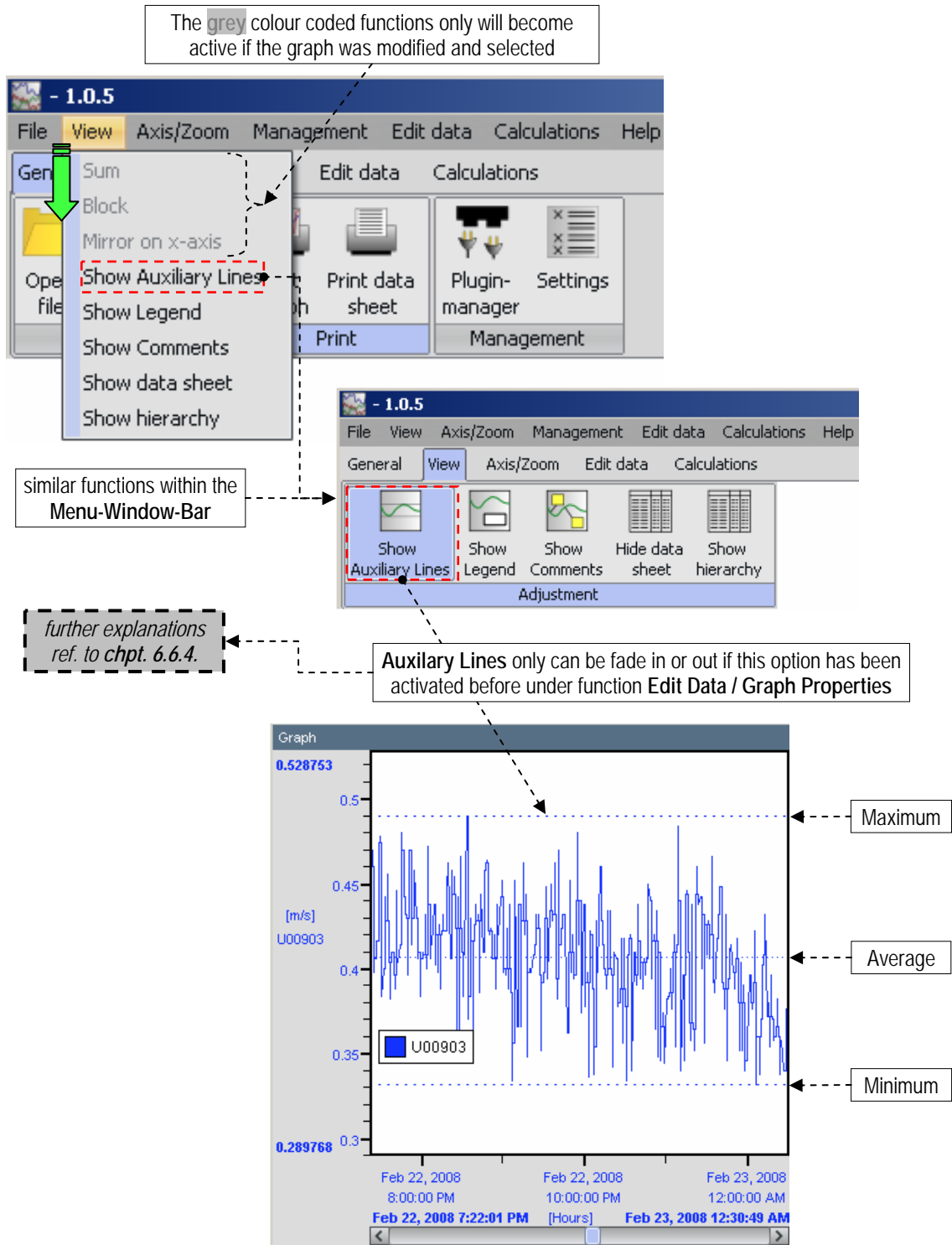


6.2. Drop-Down Menu – “View“

Additional functions within the drop-down Menu **View** that will be available as soon as one or more measured value files and their corresponding graph(s) have been opened.

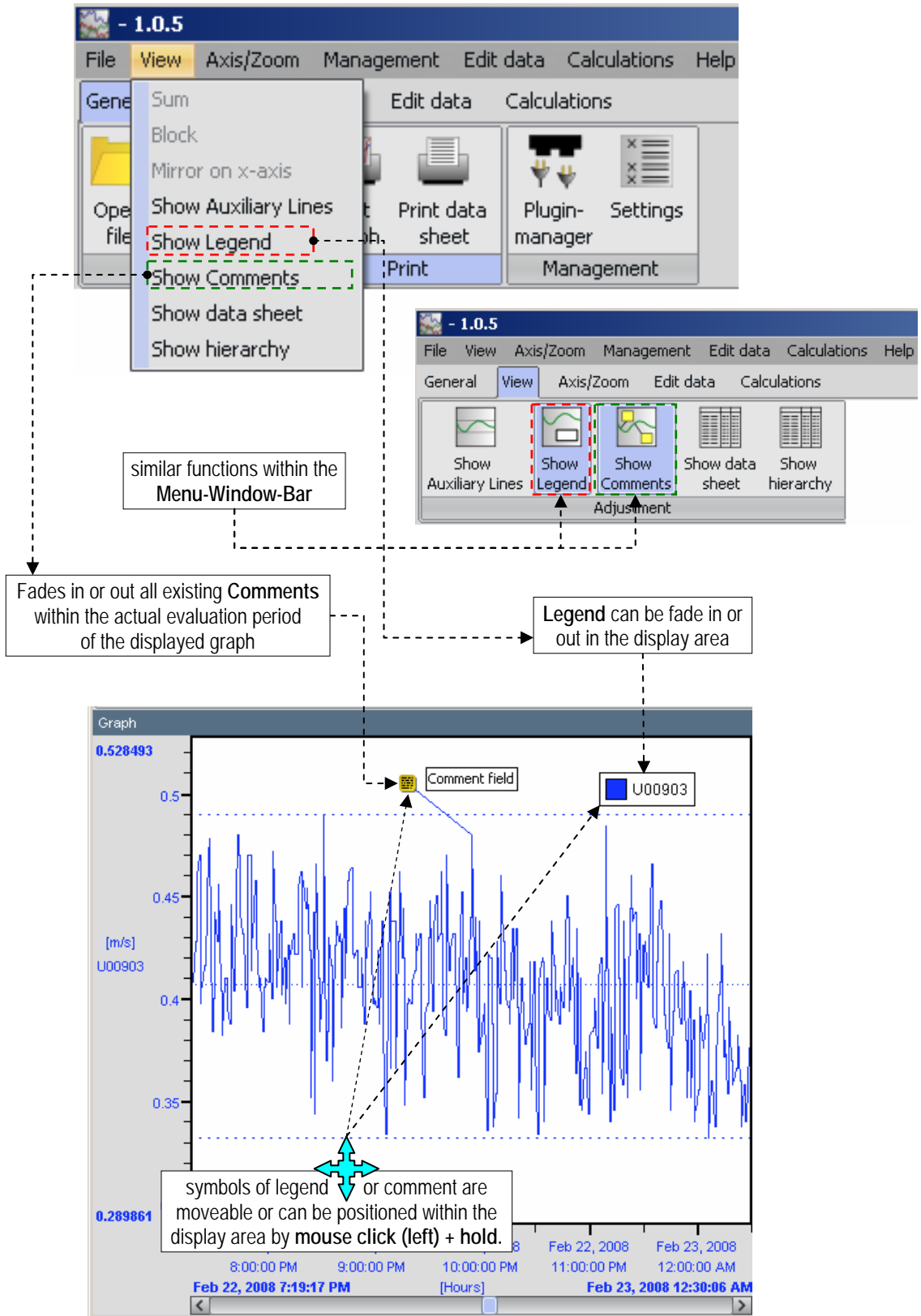
6.2.1. View – “Show Auxiliary Lines“

Fig. 33 – Show Auxiliary Lines



6.2.2. View– “Show Legend / Show Comments”

Fig. 34 – Show Legend / Show Comments



6.2.3. View – “Show Data Sheet”

Fig. 35 – Show Data Sheet

Measured values of the displayed graph(s) can be faded in or out as a data sheet

similar functions within the Menu-Window-Bar

scroll bar to select desired vertical graph section

scroll bar to select desired horizontal graph section

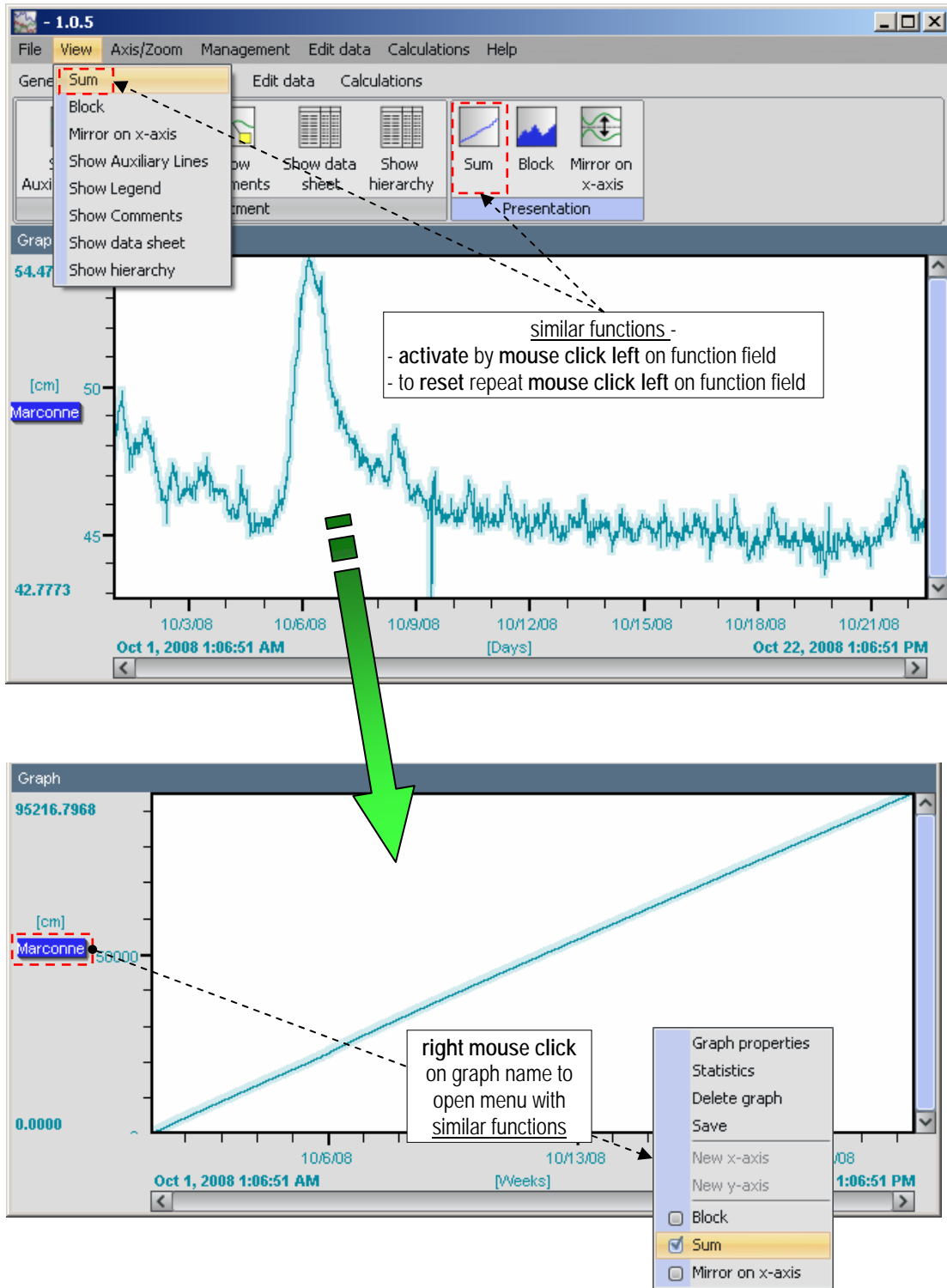
scroll bar to select desired measured value section

Time	U00903
Feb 22, 2008 9:55:15 PM	0.480000 m/s
Feb 22, 2008 9:56:15 PM	0.414000 m/s
Feb 22, 2008 9:57:15 PM	0.440000 m/s
Feb 22, 2008 9:58:15 PM	0.374000 m/s
Feb 22, 2008 9:59:15 PM	0.438000 m/s
Feb 22, 2008 10:00:15 PM	0.378000 m/s
Feb 22, 2008 10:01:15 PM	0.392000 m/s
Feb 22, 2008 10:02:15 PM	0.398000 m/s
Feb 22, 2008 10:03:15 PM	0.336000 m/s
Feb 22, 2008 10:04:15 PM	0.422000 m/s
Feb 22, 2008 10:05:15 PM	0.420000 m/s
Feb 22, 2008 10:06:15 PM	0.388000 m/s
Feb 22, 2008 10:07:15 PM	0.338000 m/s
Feb 22, 2008 10:08:15 PM	0.354000 m/s
Feb 22, 2008 10:09:15 PM	0.428000 m/s
Feb 22, 2008 10:10:15 PM	0.398000 m/s
Feb 22, 2008 10:11:15 PM	0.460000 m/s
Feb 22, 2008 10:12:15 PM	0.428000 m/s
Feb 22, 2008 10:13:15 PM	0.414000 m/s
Feb 22, 2008 10:14:15 PM	0.400000 m/s
Feb 22, 2008 10:15:15 PM	0.396000 m/s
Feb 22, 2008 10:16:15 PM	0.388000 m/s
Feb 22, 2008 10:17:15 PM	0.434000 m/s
Feb 22, 2008 10:18:15 PM	0.400000 m/s
Feb 22, 2008 10:19:15 PM	0.434000 m/s
Feb 22, 2008 10:20:15 PM	0.396000 m/s
Feb 22, 2008 10:21:15 PM	0.342000 m/s

6.2.4. View – “Sum“

If the function **Sum** was chosen all measured values of the desired graph will be displayed accumulated. Prior to that the corresponding graph has to be selected from the display area, as shown in *chpt. 6.4.1, Fig. 42*.

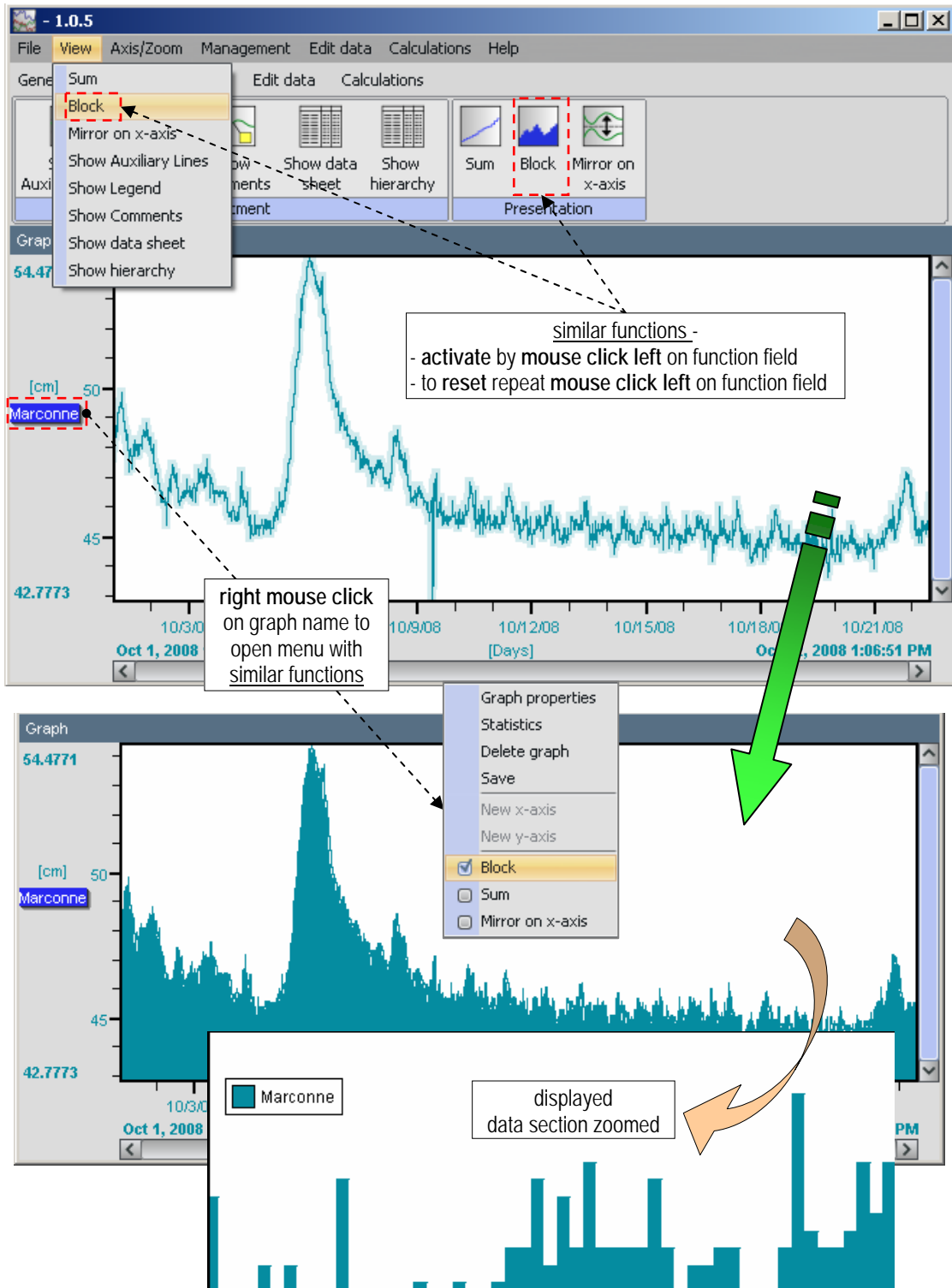
Fig. 36 – View – “Sum“



6.2.5. View – “Block

The function **Block** enables to display pulses as single blocks or bars (e.g. for displaying rainfall data). It will only will become active upon selection of desired graph within the display area. (ref. to **chpt. 6.4.1**)

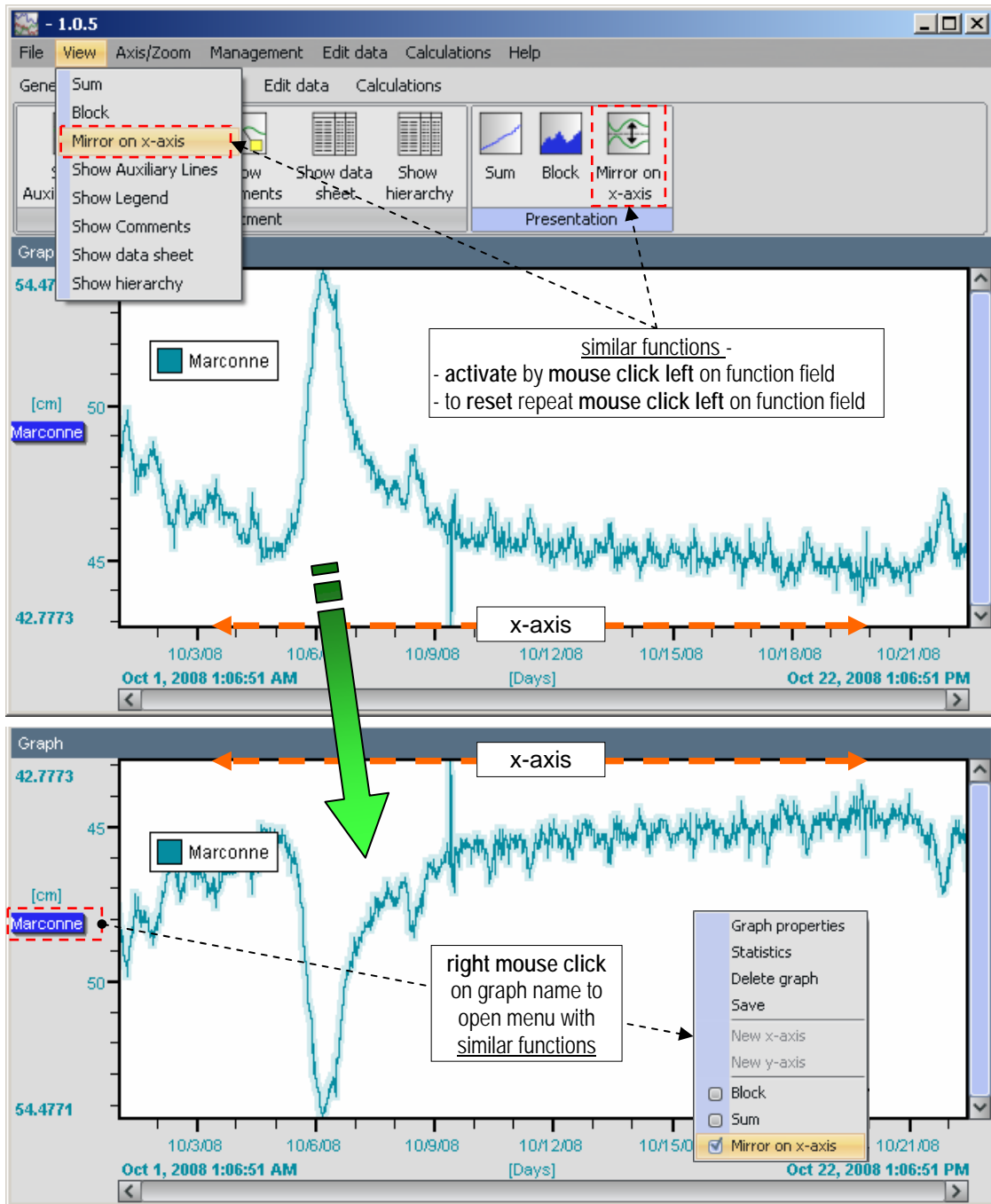
Fig. 37 – View – “Block“



6.2.6. View – “Mirror on X-Axis“

This function will cause a graph to be mirrored on the x-axis. It will only become active upon selection of desired graph within the display area. (ref. to *chpt. 6.4.1*)

Fig. 38 – View – “Mirror on X-Axis“



6.2.7. View – “Show Hierarchy“

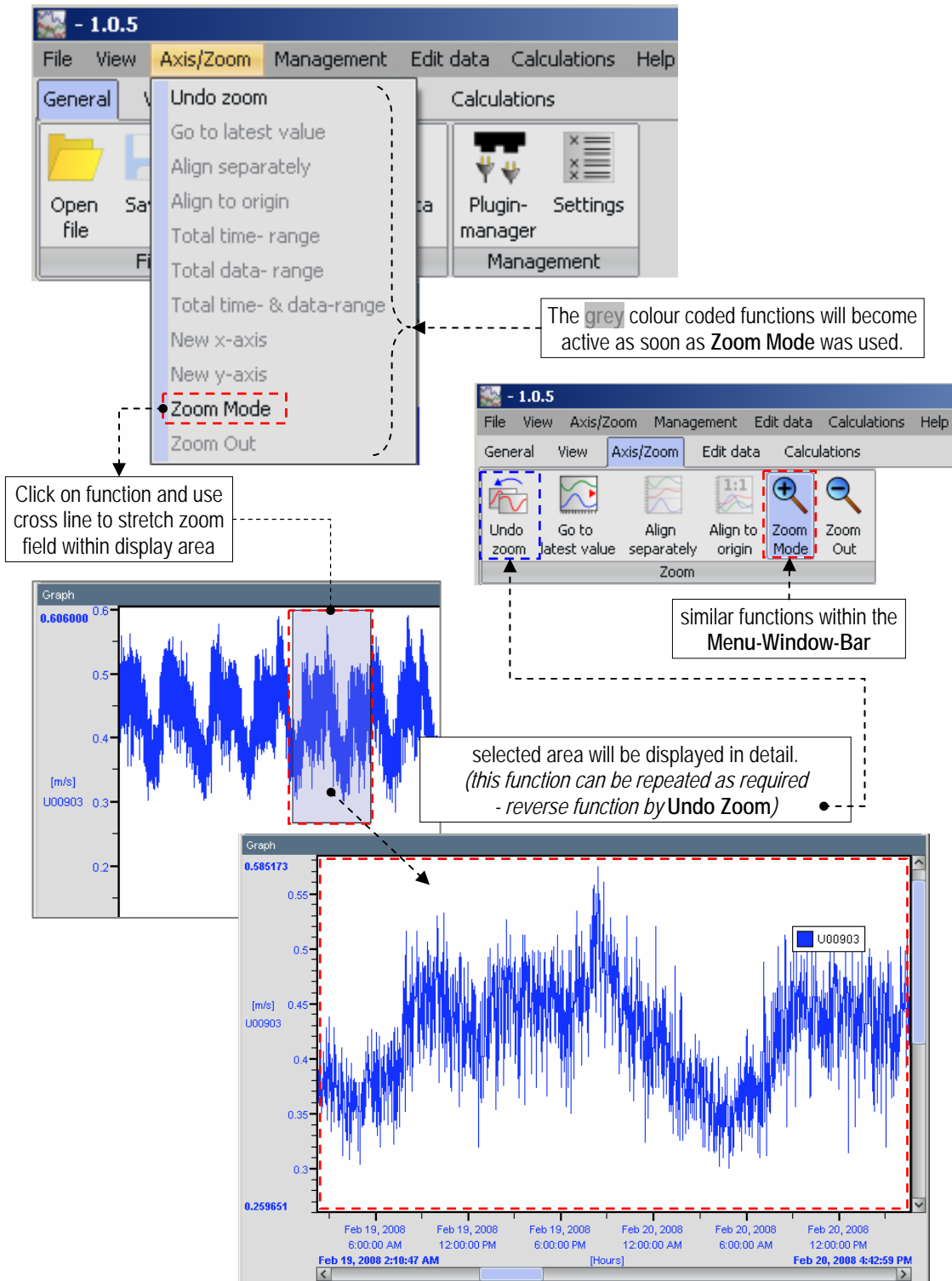
This function is being prepared

6.3. Drop-Down Menu – “Axis/Zoom“

This function provides a more detailed or enlarged display of certain desired and selected areas of a graph.

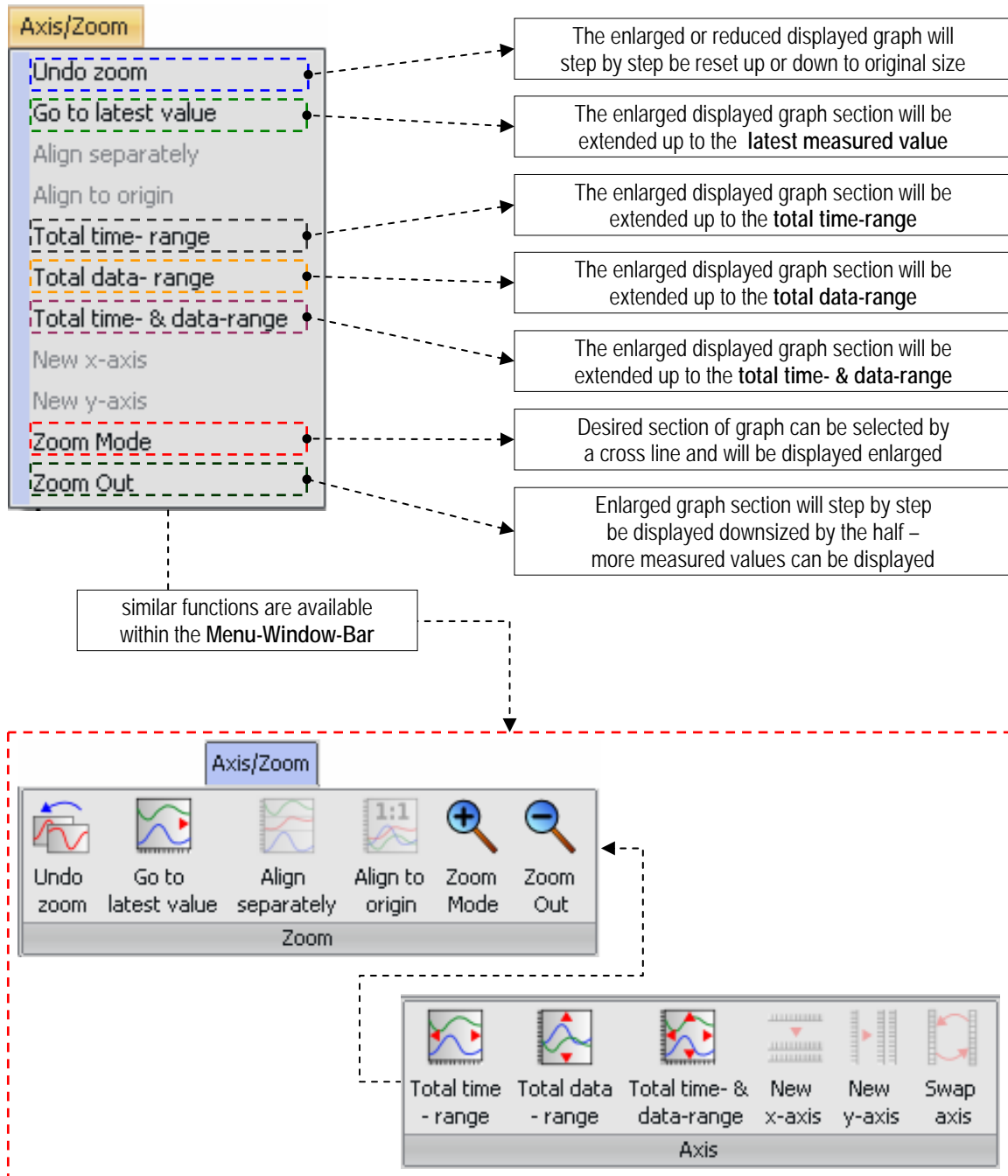
6.3.1. Axis/Zoom – “Zoom Mode“ and “Zoom out“

Fig. 39 – “Zoom Mode“/„Zoom out“



6.3.2. Axis/Zoom – other functions if only one graph is displayed

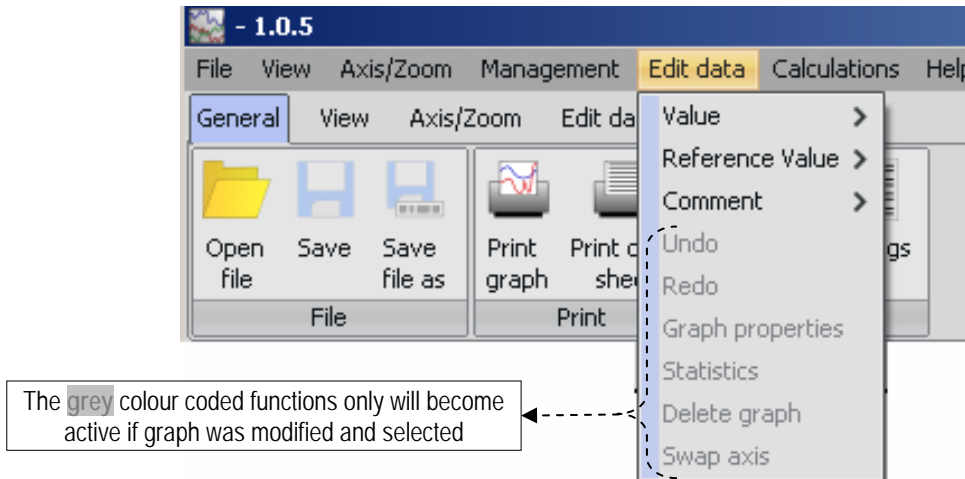
Fig. 40 – Axis/Zoom-further functions (single graph)



6.4. Drop-Down Menu – “Edit Data“

The functions of menu **Edit Data** provide further options to present graph and measured values within the display area.

Fig. 41 – Edit Data



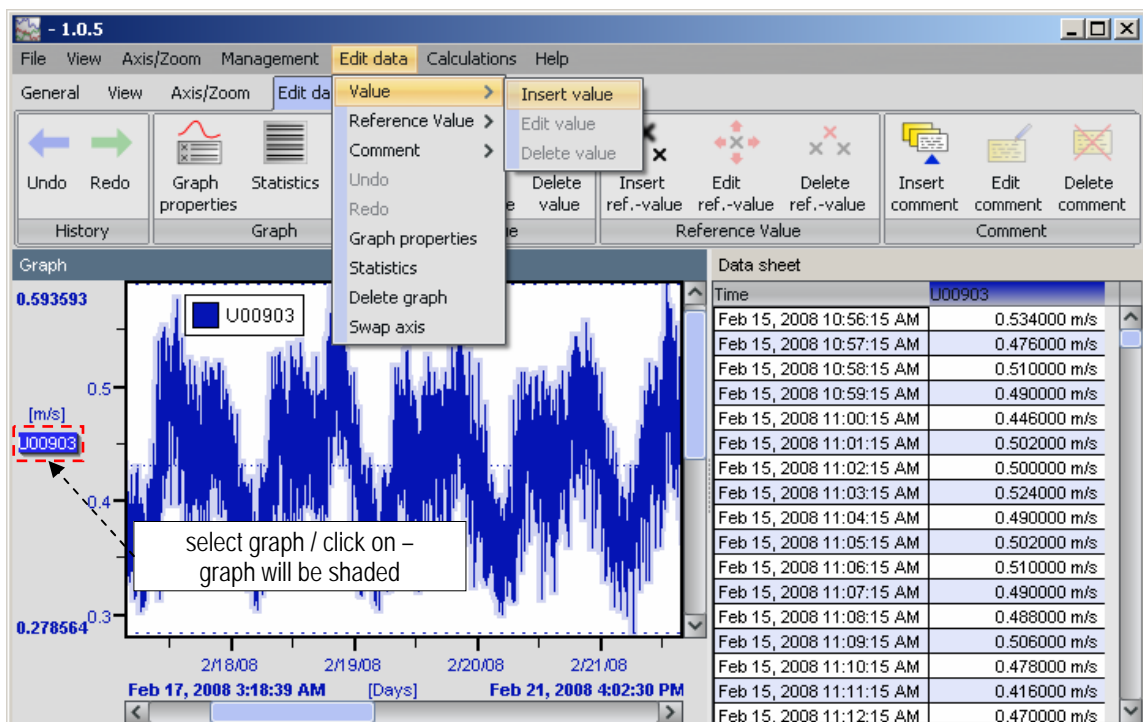
6.4.1. Edit Data – “Value“

The function **Value** enables to add values to a selected graph. Also existing graphs can be modified or deleted.

For this occasion initially the

- desired graph has to be selected (ref. to *chpt. 6.4.1, Fig. 42*) and
- function **Show data sheet** has to be activated (ref. to *chpt. 6.2.3*)

Fig. 42 – Value – „Selection of Graph“ and „Show data sheet“



6.4.1.1. Value – “Insert Value”

This function enables insertion of one or more addition measured values. If the time stamp is identical with an existing value it will be replaced by the new value.

Fig. 43 – Value – “Insert Value”

The grey colour coded functions only will become active if graph was modified

similar functions available within the Menu-Window-Bar

new value will be inserted into data sheet and graph

graph identifier

time stamp

line to enter value

Cancel entry / change or confirm with OK

Time	U00903
Feb 23, 2008 11:57:15 AM	0.424000 m/s
Feb 23, 2008 11:58:15 AM	0.478000 m/s
Feb 23, 2008 11:59:15 AM	0.432000 m/s
Feb 23, 2008 12:00:15 PM	0.432000 m/s
Feb 23, 2008 12:01:15 PM	0.452000 m/s
Feb 23, 2008 12:02:15 PM	0.506000 m/s
Feb 23, 2008 12:03:15 PM	0.430000 m/s
Feb 23, 2008 12:04:15 PM	0.490000 m/s
Feb 23, 2008 12:05:15 PM	0.498000 m/s
Feb 23, 2008 12:06:15 PM	0.500000 m/s
Feb 23, 2008 12:07:15 PM	0.472000 m/s
Feb 23, 2008 12:08:15 PM	0.412000 m/s
Feb 23, 2008 12:09:15 PM	0.400000 m/s
Feb 23, 2008 12:10:15 PM	0.446000 m/s
Feb 23, 2008 12:11:15 PM	0.422000 m/s
Feb 23, 2008 12:12:15 PM	0.382000 m/s
Feb 23, 2008 12:13:15 PM	0.432000 m/s
Feb 23, 2008 12:14:15 PM	0.466000 m/s
Feb 23, 2008 12:15:15 PM	0.456000 m/s
Feb 23, 2008 12:16:15 PM	0.390000 m/s

6.4.1.2. Value – “Edit value“ and “Delete value“

This function enables to change or to delete existing measured values. If the time stamp of the selected value is identical with the time stamp of the new value, only the existing value will be replaced by the new value.

Edit value

- select value from the data sheet (or instant selection by **double mouse-click**)
- click on **Edit value**
- confirm change with **OK** or **Cancel** change (edited value will be displayed and marked in the data sheet (refer to Fig. 45)

Delete value

- select value from the data sheet (or instant selection by **double mouse-click**)
- click on **Delete value** (value will be deleted)

Attention:

For function **Delete value** no confirmation is required. However entry can be withdrawn within menu **Edit value** and function **Undo** (first select graph – ref. to chpt. 6.4.1, Fig. 42).

Fig. 44 – Value – “Edit value / Delete value“ Part 1

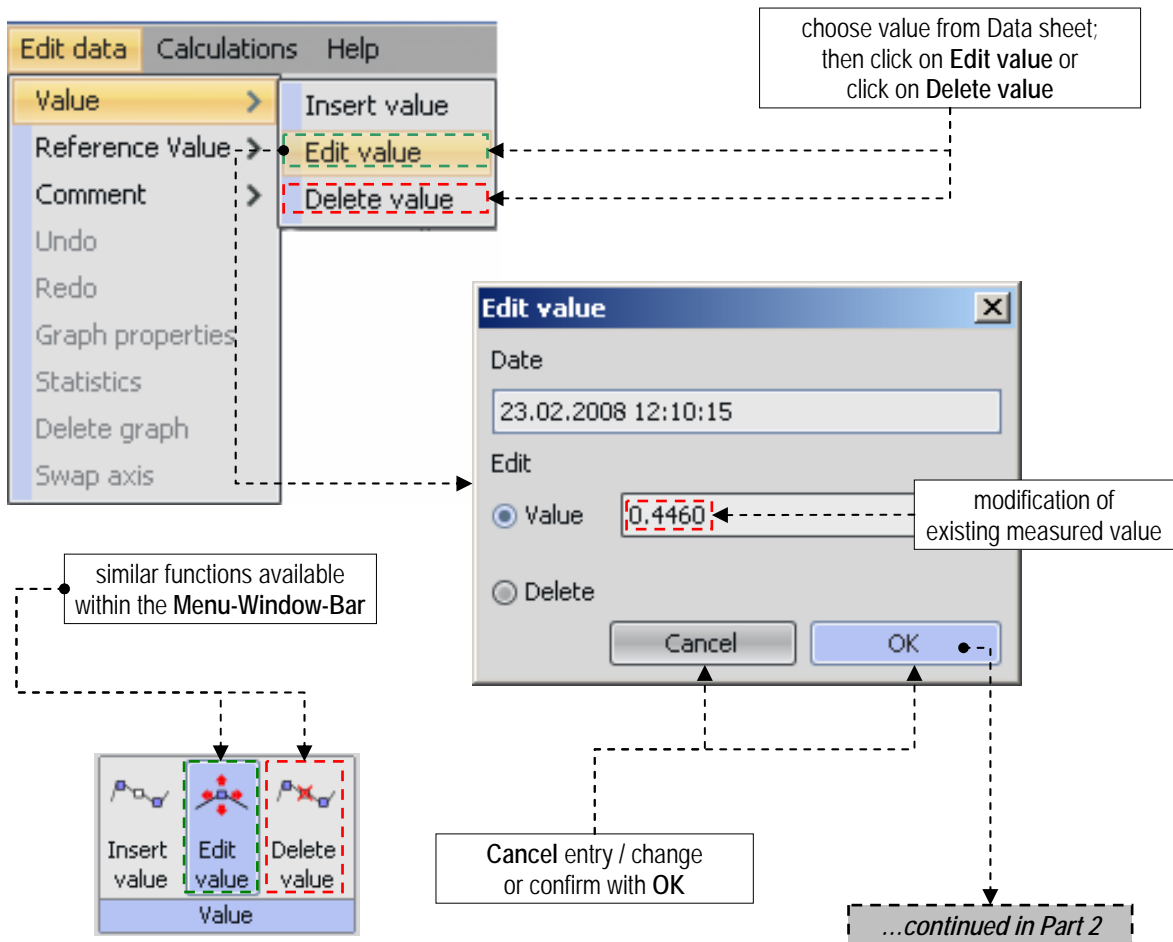
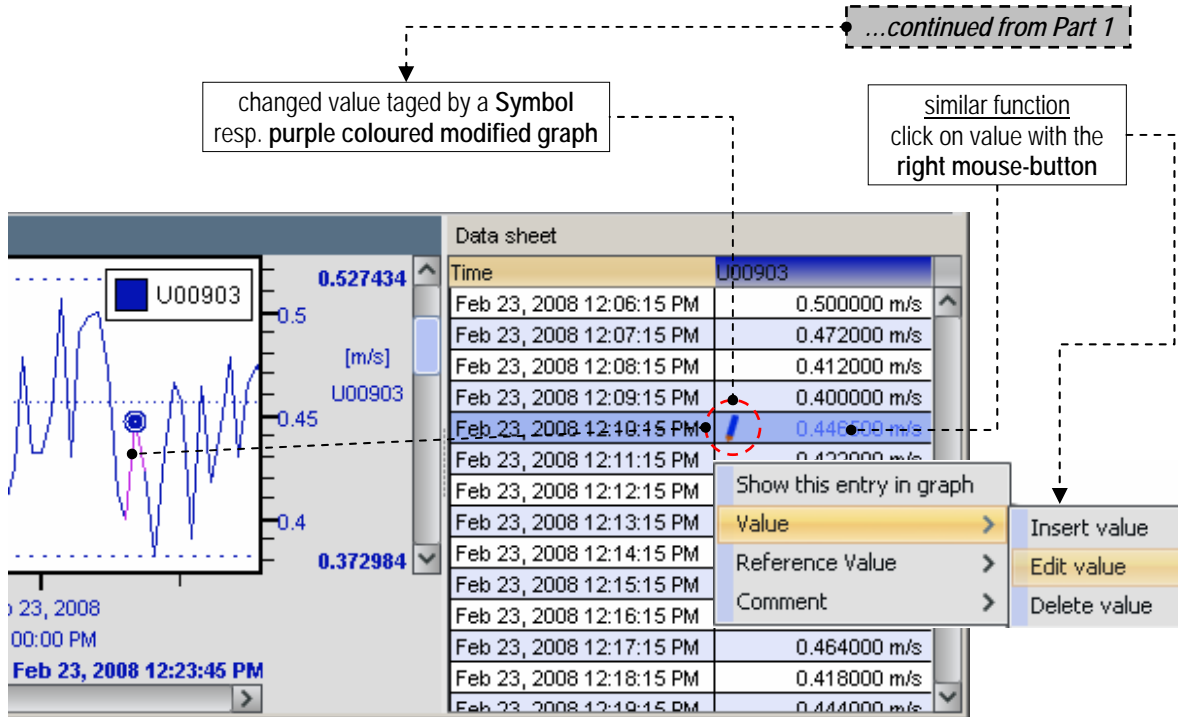
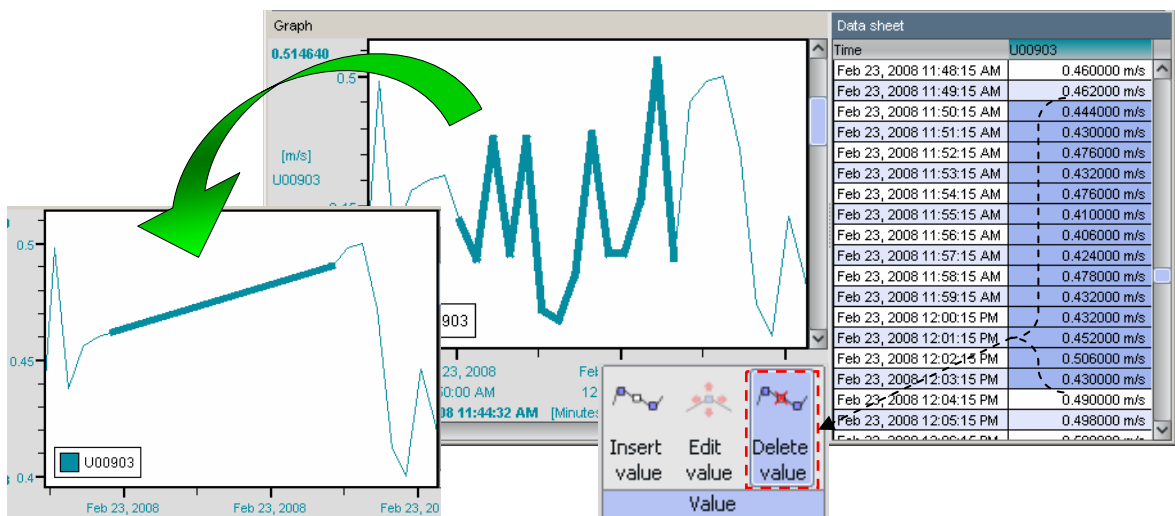


Fig. 45 – Value – “Edit value / Delete value“ Part 2



To delete a defined **Range of Values** the first and the last value of this range has to be selected (press/hold shift-key and click-on desired single values, or press/hold left mouse-key and drag mouse across desired range of values). All values of desired range and the selected area within the graph will be colour coded or respectively highlighted. Next click on **Delete value** (refer to Fig. 44); selected values and possibly existing corresponding reference values and comments will be deleted. The deleted area of the graph will be replaced by a straight line.

Fig. 46 – Delete Range of Values (several values at the same time)



6.4.2. Edit Data – “Reference Value“

By this function **Reference Values** can be added to a selected Graph. Present reference values also can be modified or deleted.

Reference Values are measured data determined parallel to the analysis interval by a manual reading of the tide gauge. To monitor measuring variances these values can be added to the data sheet of the corresponding graph. They accordingly will be listed marked or labelled.

The manually determined values can be used as a criterion to conduct a correction or calibration of the measuring equipment.

To a great extend the functionality of **Edit Data – “Reference Value“** is identical with the description for **chpt. 6.4.1 Edit Data – “Value“**.

As shown in **chpt. 6.4.1** initially

- select desired graph from the display area
- and activate function **Show Data Sheet** (*ref. to chpt. 6.2.3*).

6.4.2.1. Reference Value – “Insert Reference Value”

This function provides the insertion of one or more reference values. If the time stamp is identical with an existing value it will be replaced by the new value.

Fig. 47 – Reference Value – “Insert Reference Value”

The figure illustrates the process of inserting a reference value into the DEMASvis software. It is divided into several parts:

- Menu Structure:** A 'Value' menu is shown with 'Reference Value' selected. The 'Insert ref.-value' option is highlighted in grey, indicating it is active. Other options include 'Edit ref.-value', 'Delete ref.-value', 'Comment', 'Undo', 'Redo', 'Graph properties', 'Statistics', 'Delete graph', and 'Swap axis'.
- Dialog Box:** The 'New reference value' dialog box is open. It contains:
 - graph identifier:** A dropdown menu with 'U00903' selected.
 - time stamp:** A text field containing '23.02.2008 12:00:15'.
 - Value:** A text field containing '0,5230'.
 - Buttons:** 'Cancel' and 'OK' buttons.
- Annotations:**
 - A note states: "The grey colour coded functions only will become active upon modification of values".
 - A note points to the 'OK' button: "Cancel entry / change or confirm with OK".
 - A note points to the 'Insert ref.-value' button in the 'Reference Value' toolbar: "similar functions available within the Menu-Window-Bar".
 - A note points to the data sheet: "new reference value will be inserted in graph and data sheet".
- Graph and Data Sheet:**
 - The **Graph** window shows a line plot for 'U00903' with a horizontal reference line at 0.523000 m/s. A note says: "mouse-click left to move bar and to define size of display area individually".
 - The **Data sheet** window shows a table of data points. The entry for 'Feb 23, 2008 12:00:15 PM' is highlighted in red, showing a value of '0.523000 m/s'.

6.4.2.2. Reference Value – “Edit and Delete Reference Value“

This function enables to change or to delete existing reference values. If the time stamp of the selected value is identical with the time stamp of the new value, only the existing value will be replaced by the new value.

Edit Reference Value

- select reference value from the data sheet (or instant selection by **double mouse-click**)
- click-on **Edit ref.-value**
- confirm change with **OK** or **Cancel** change (modified value will be displayed and marked in the data sheet (ref. to Fig. 49).

Delete Reference Value

- select reference value from the data sheet (or instant selection by **double mouse-click**)
- click-on **Delete ref.-value** (value will be deleted)

Attention:

For function **Delete ref.-value** no confirmation is required. However entry can be withdrawn within menu **Edit value** and function **Undo** (first select graph – ref. to **chpt. 6.4.1, Fig. 42**).

Fig. 48 –Reference Value – “Edit and Delete Reference Value“ Part 1

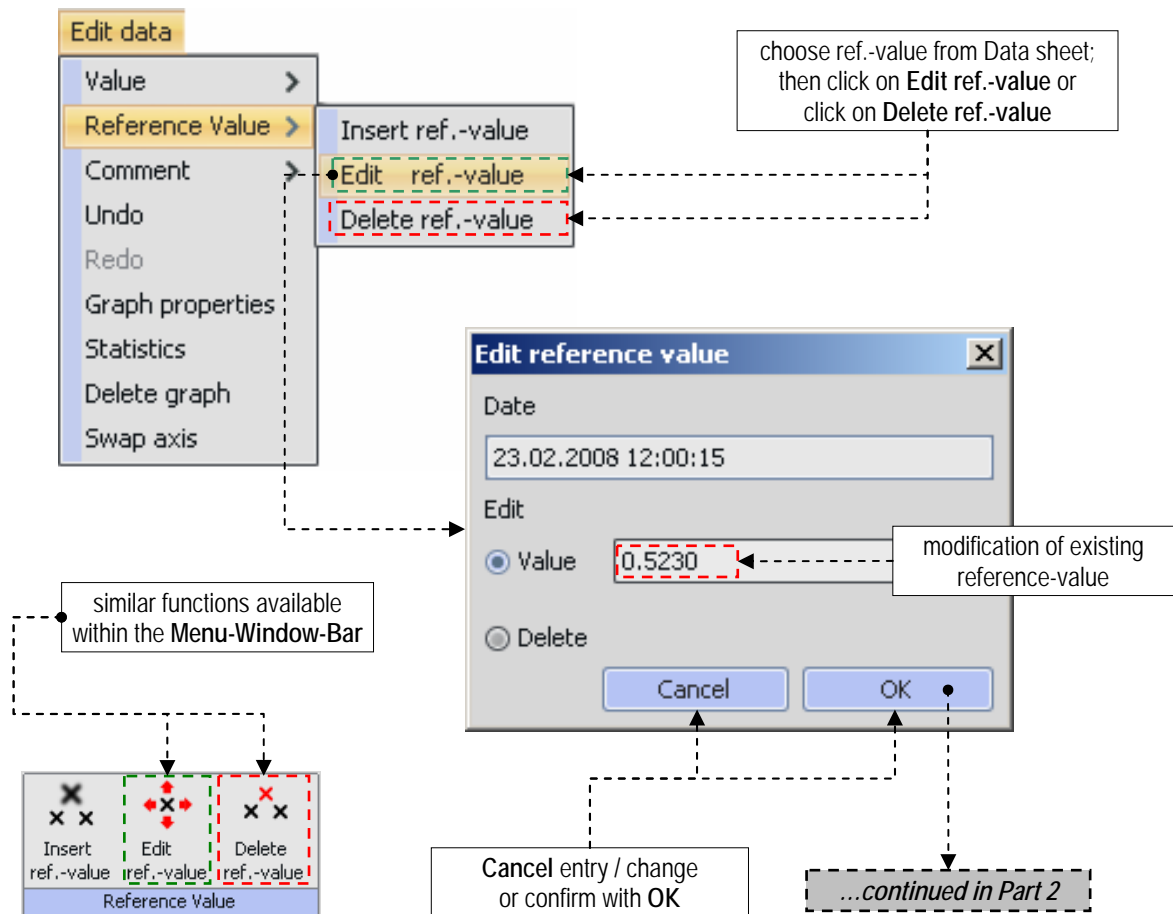
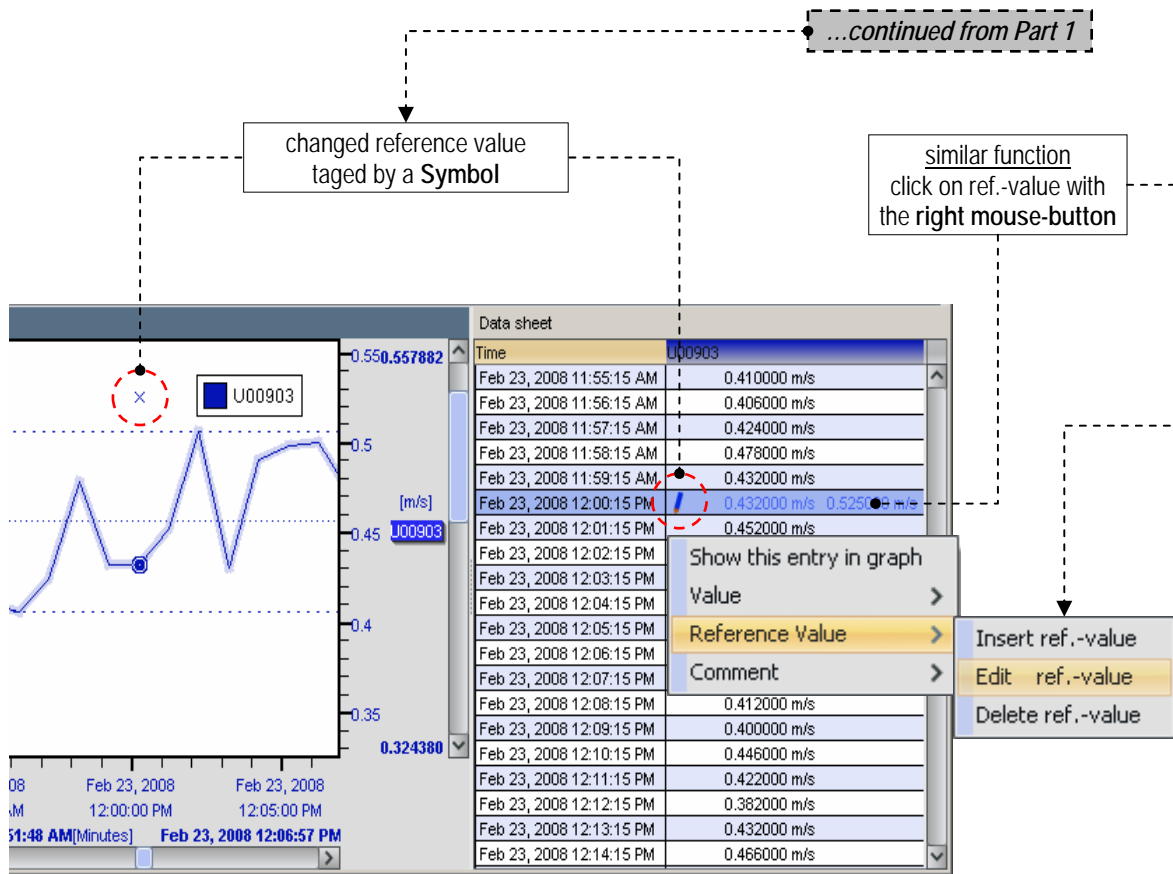


Fig. 49 – Reference Value – “Edit and Delete Reference Value“ Part 2



6.4.3. Edit Data – “Comment“

This function provides adding comments to a selected graphs. Existing comments can be edited or deleted.

6.4.3.1. Comment – “Insert Comment“

As shown in **section 6.4.1** first of all

- select desired graph from the display area and
- activate function **Show Data Sheet** (*ref. to chpt. 6.2.3*).
- select desired value to which a comment shall be attached
- enter comment into designated field
- confirm entry with **OK** or quit with **Cancel** (comment shows up on graph and will be displayed and marked in the data sheet (*ref. to Fig. 50*)).

Fig. 50 – Edit Data – “Insert Comment”

The grey colour coded functions only will become active upon Modification of comments

similar functions available within the Menu-Window-Bar

graph identifier

time stamp

comment field

Cancel entry / change or confirm with OK

identification symbol for the existence of a comment

selected value

mouse-click left to move bar and to define size of display area individually

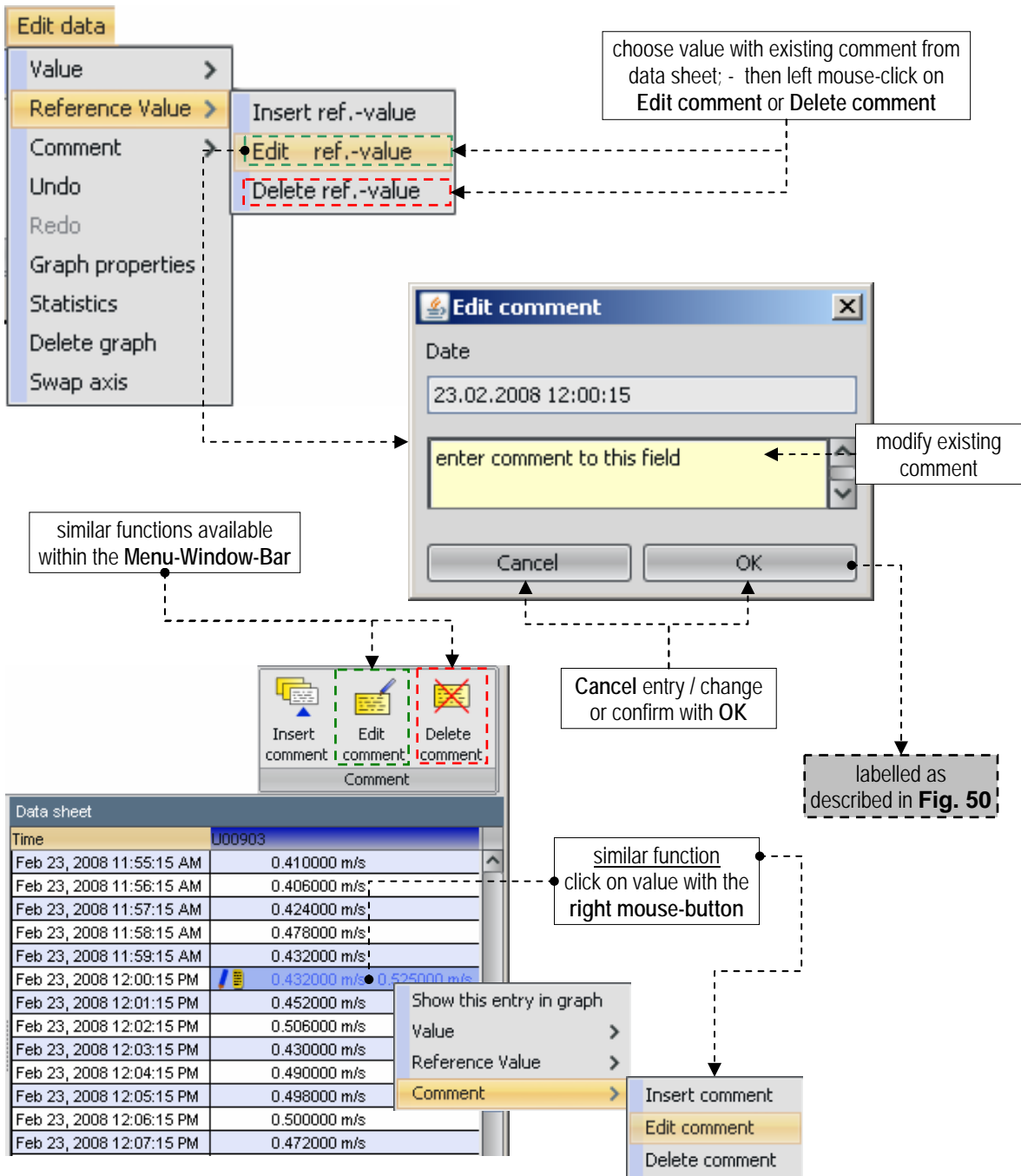
Time	U00903
Feb 23, 2008 11:55:15 AM	0.410000 m/s
Feb 23, 2008 11:56:15 AM	0.406000 m/s
Feb 23, 2008 11:57:15 AM	0.424000 m/s
Feb 23, 2008 11:58:15 AM	0.478000 m/s
Feb 23, 2008 11:59:15 AM	0.432000 m/s
Feb 23, 2008 12:00:15 PM	0.432000 m/s 0.525000 m/s
Feb 23, 2008 12:01:15 PM	0.452000 m/s
Feb 23, 2008 12:02:15 PM	0.506000 m/s
Feb 23, 2008 12:03:15 PM	0.430000 m/s
Feb 23, 2008 12:04:15 PM	0.490000 m/s
Feb 23, 2008 12:05:15 PM	0.498000 m/s
Feb 23, 2008 12:06:15 PM	0.500000 m/s
Feb 23, 2008 12:07:15 PM	0.472000 m/s
Feb 23, 2008 12:08:15 PM	0.412000 m/s
Feb 23, 2008 12:09:15 PM	0.400000 m/s
Feb 23, 2008 12:10:15 PM	0.446000 m/s
Feb 23, 2008 12:11:15 PM	0.422000 m/s
Feb 23, 2008 12:12:15 PM	0.382000 m/s
Feb 23, 2008 12:13:15 PM	0.432000 m/s

6.4.3.2. Comments – “Edit and Delete Comment”

As shown in *chpt. 6.4.1* initially

- select desired graph from the display area and
- activate function **Show Data Sheet** (*ref. to chpt. 6.2.3*).
- select desired value with an attached comment
- change comment in designated field
- confirm entry with **OK** or quit with **Cancel** (comment shows up on graph and will be displayed and marked in the data sheet (*ref. to Fig. 50*)).

Fig. 51 – Comment – “Edit- and Delete Comment”



6.5. Drop-Down Menu – “Calculations“

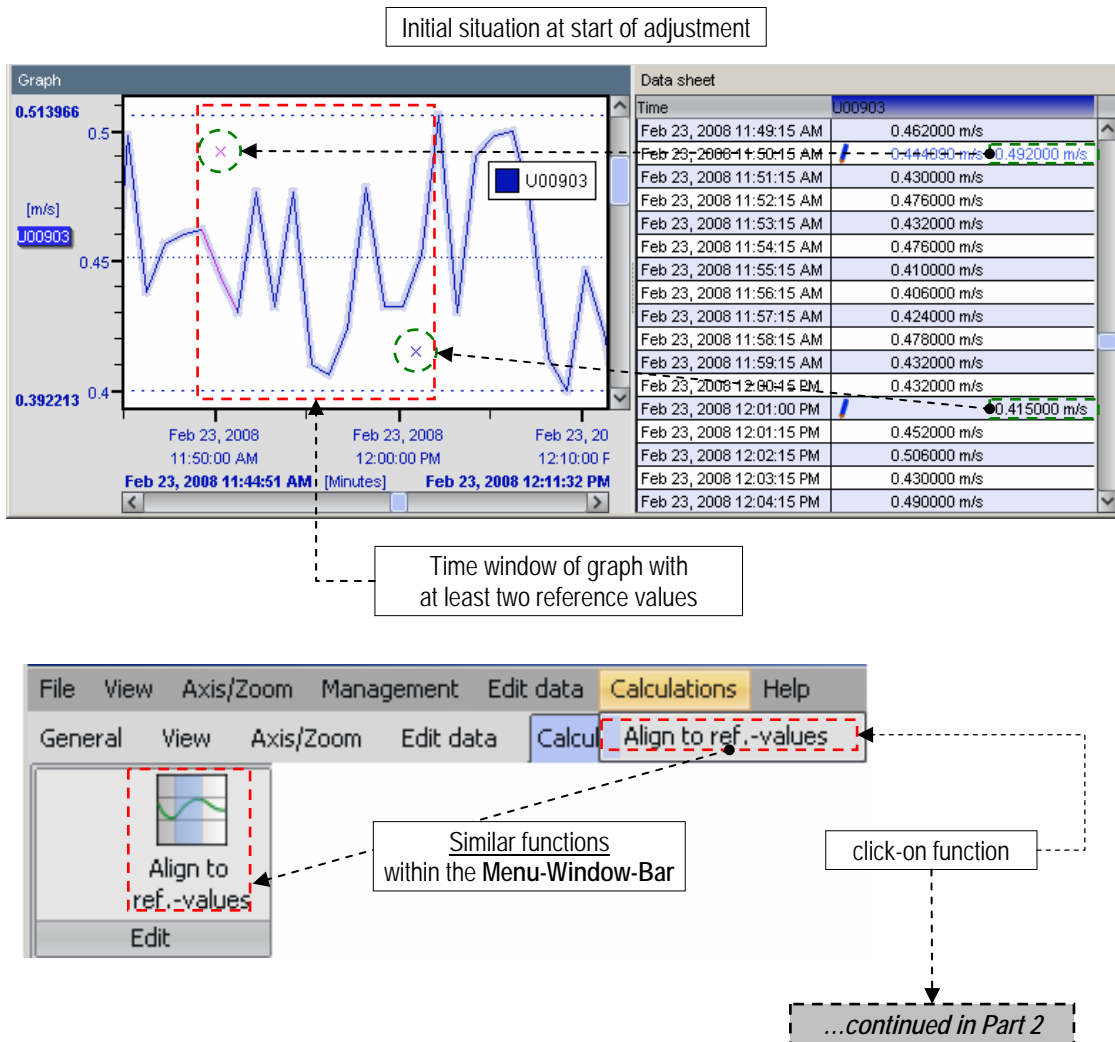
Under menu **Calculations** the function **Align to ref. Values** provides harmonization between the existing measured values and the manually determined reference values.

6.5.1. Calculations – “Align to Reference Values“

This function will become active if reference values have been added (*ref. to **chpt. 6.4.2.1***) and corresponding graph has been selected from display area.

In order to perform alignment between the measured values and the reference values within a certain time window of a graph, at least two reference values have to exist. The measured value at the beginning, respectively at the end of the time segment will be adjusted to the first, respectively to the last reference value of the section. Intermediate values correspondingly will be raised or lowered and linear interpolated.

Fig. 52 – Calculations – “Align to Reference Values“ Part 1



6.6. Drop-Down Menu – “Calculations”

Under menu **Calculations** the function **Align to ref. Values** provides harmonization between the existing measured values and the manually determined reference values. The function **Extract Extreme Values** allows the individual graphic display and evaluation of rainfall values for defined time periods.

6.5.2. Calculations – “Align to Reference Values”

This function will become active if reference values have been added (*ref. to chpt. 6.4.2.1*) and corresponding graph has been selected from display area.

In order to perform alignment between the measured values and the reference values within a certain time window of a graph, at least two reference values have to exist. The measured value at the beginning, respectively at the end of the time segment will be adjusted to the first, respectively to the last reference value of the section. Intermediate values correspondingly will be raised or lowered and linear interpolated.

Fig. 54 – Calculations – “Align to Reference Values” Part 1

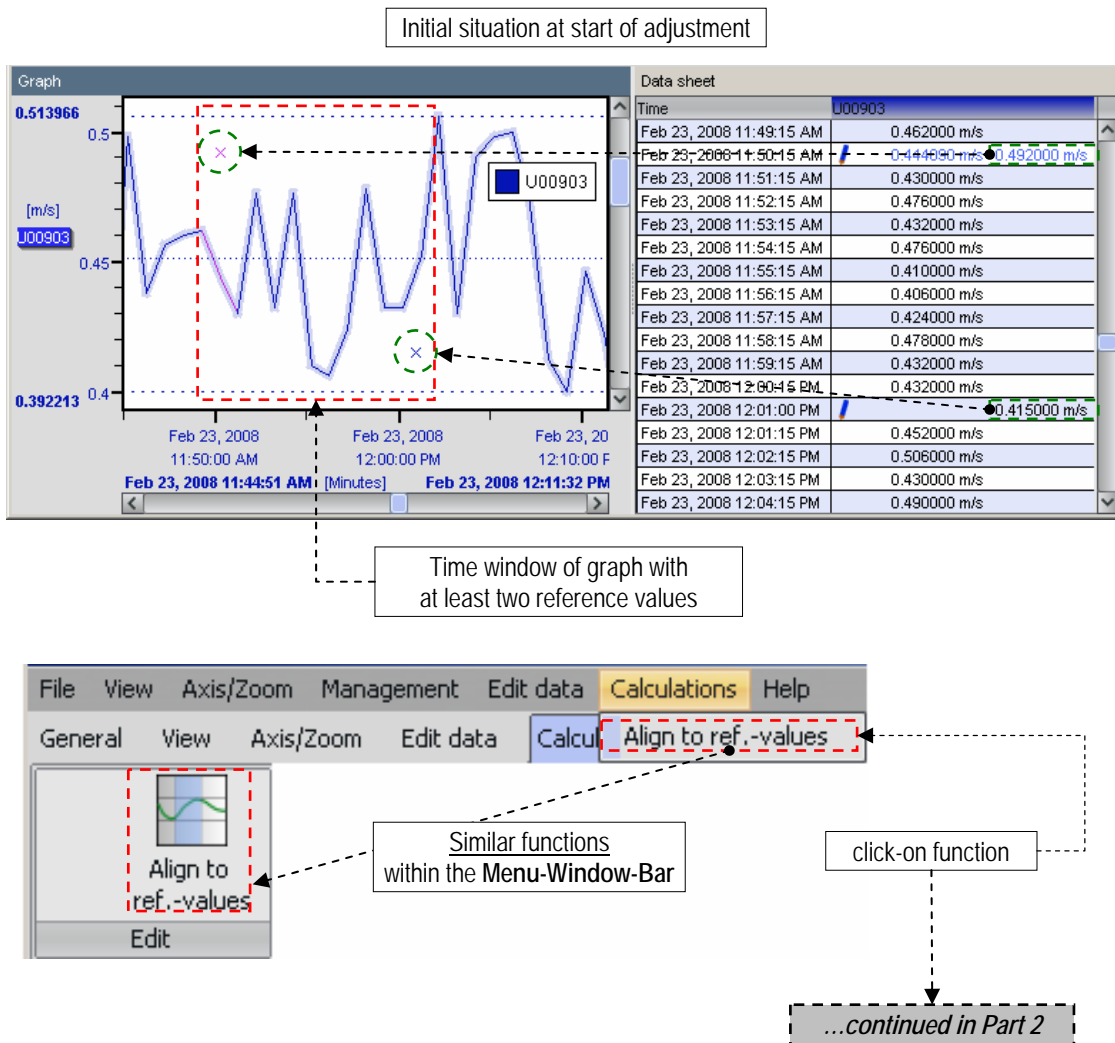
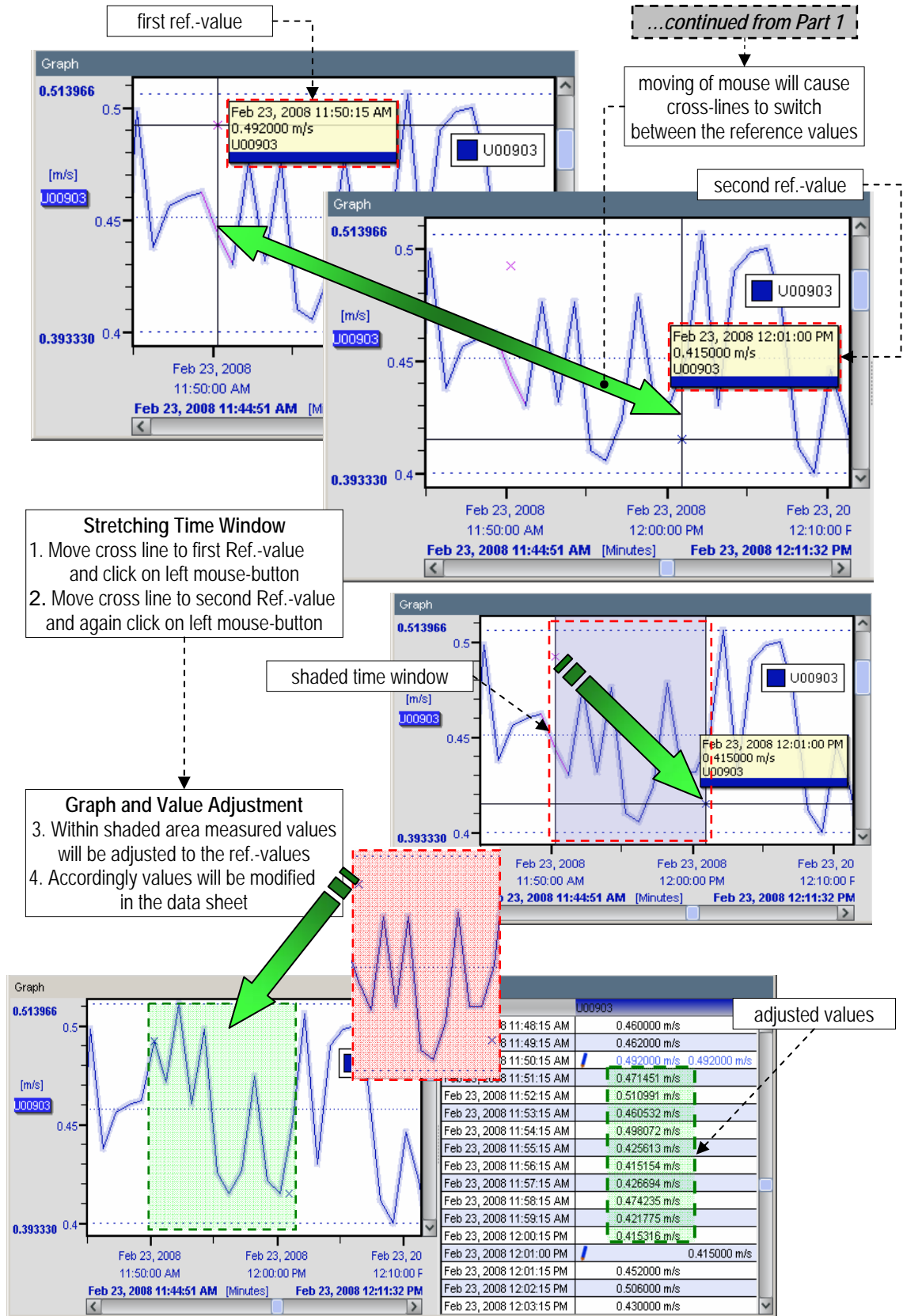


Fig. 55 – Calculations – “Align to Reference Values“ Part 2



6.5.3. Calculations – “Extract Extreme Values”

This function provides the individual graphic display and evaluation of e.g. rainfall values for a defined time period. The data file with the rainfall values has to be opened and the corresponding graph will be displayed. Miscellaneous adjustments for the extreme value extraction can be performed and pictured as the following example shows:

Fig. 56 – Calculations – “Extract Extreme Values”

- open file (refer to *chpt. 3.2*)
 - display Data sheet (refer to *chpt. 6.2.3*)
 - Prior selecting function **Extract Extreme Values** the corresponding graph has to be selected from the display area, as shown in *chpt. 6.4.1, Fig. 42*.

select / click on **Extract Extreme Values**

select graph / click on – graph will be shaded

enter desired Timerange or choose Complete

choose Extract method

choose Interval from pull down menu

can only be selected if 1 day Interval was chosen

decide where extracted value shall show up in the data sheet

Time	Station 1 - 1
Nov 26, 2005 12:00:00 AM	11.7000 mm
Nov 27, 2005 12:00:00 AM	4.5000 mm
May 22, 2006 12:00:00 AM	1.4000 mm
May 23, 2006 12:00:00 AM	0.0000 mm
May 24, 2006 12:00:00 AM	0.0000 mm
May 25, 2006 12:00:00 AM	0.0000 mm
May 26, 2006 12:00:00 AM	0.0000 mm
May 27, 2006 12:00:00 AM	0.0000 mm
May 28, 2006 12:00:00 AM	0.0000 mm
May 29, 2006 12:00:00 AM	0.0000 mm
May 30, 2006 12:00:00 AM	0.0000 mm
May 31, 2006 12:00:00 AM	0.0000 mm
Jun 1, 2006 12:00:00 AM	0.0000 mm
Jun 2, 2006 12:00:00 AM	0.0000 mm
Jun 3, 2006 12:00:00 AM	0.0000 mm

Fig. 57 – Calculations – “Extract Extreme Values” ...continued...

...further explanations for Extract method

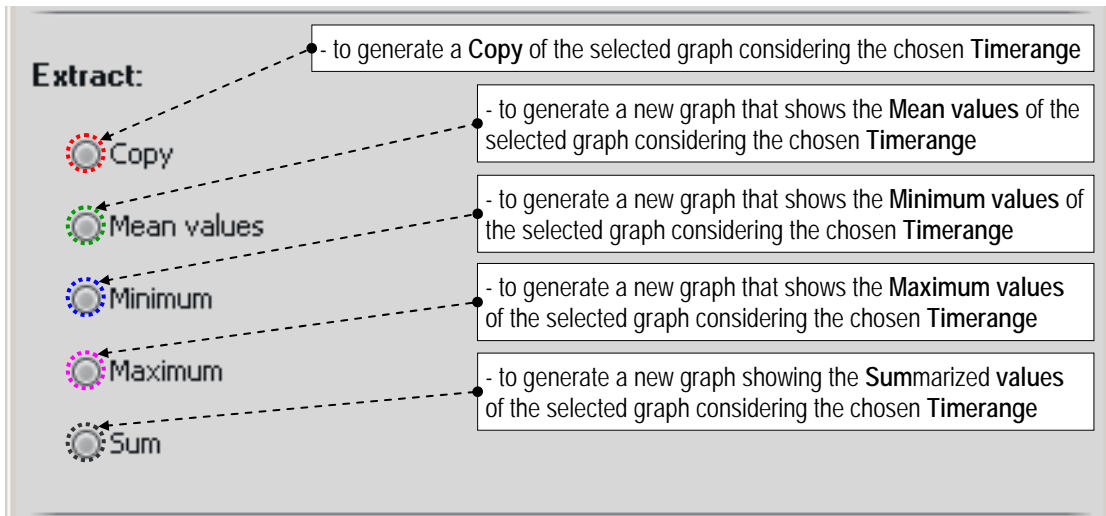


Fig. 58 – Calculations – “Extract Extreme Values” Example

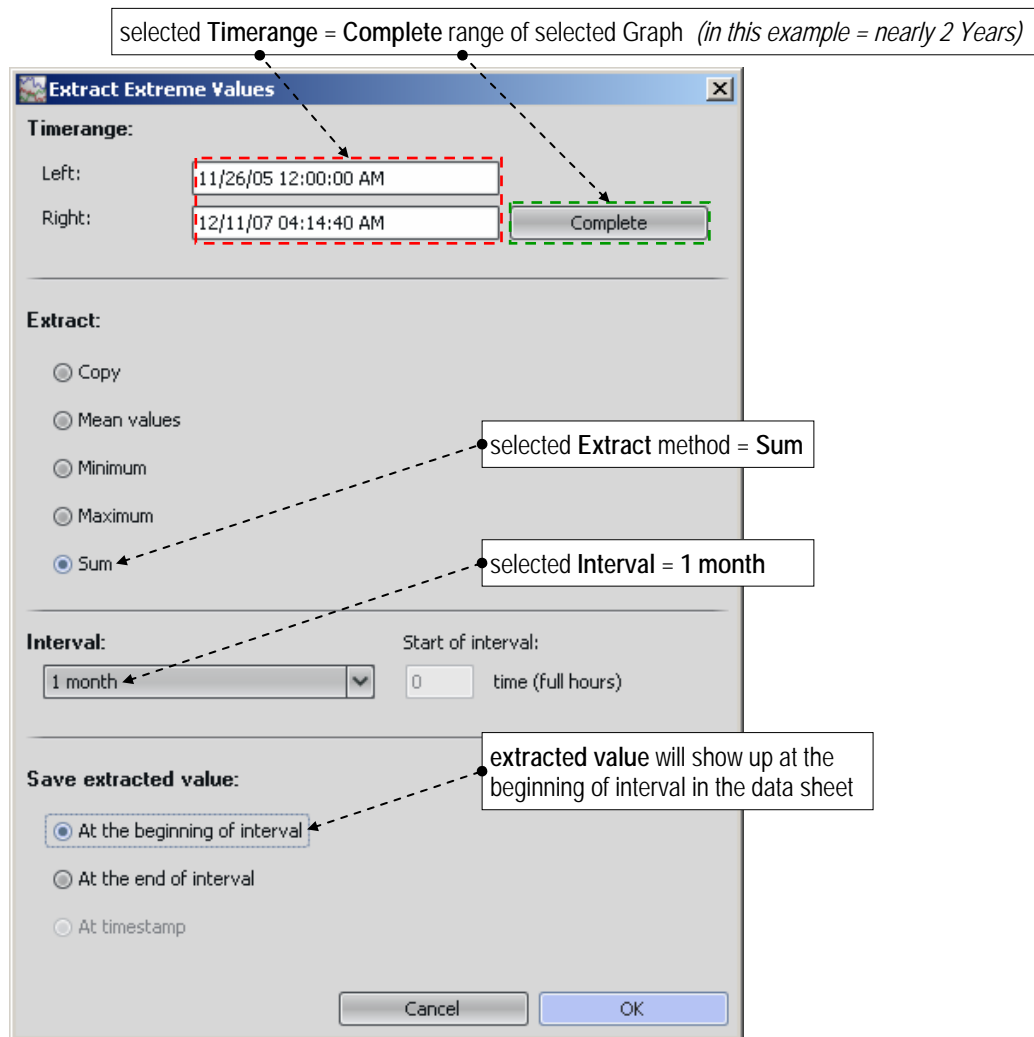
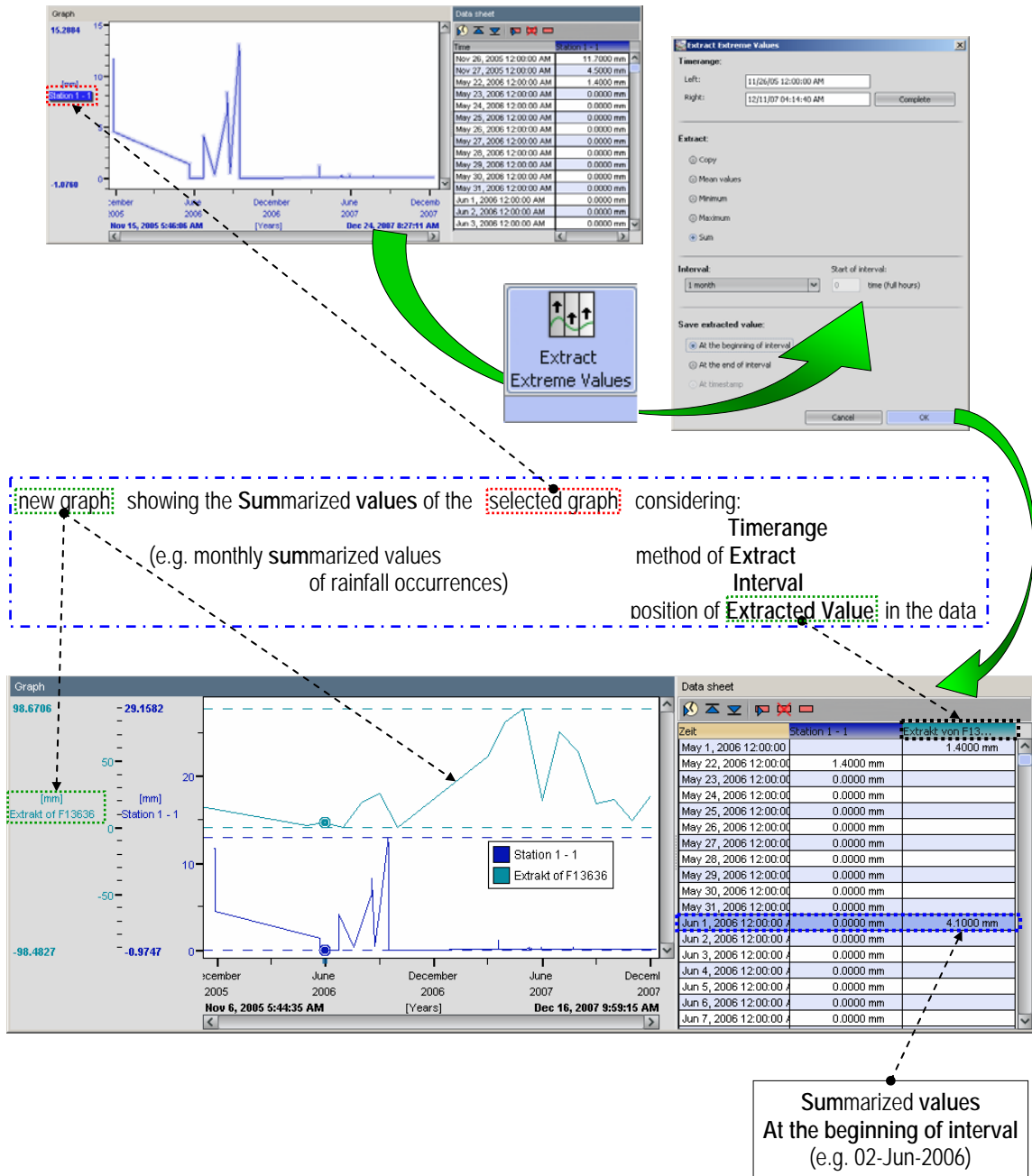


Fig. 59 – Calculations – “Extract Extreme Values” Example ...continued...



Note: For the arrangement of the display-area refer to chapter 6.2 and chapter 6.3.

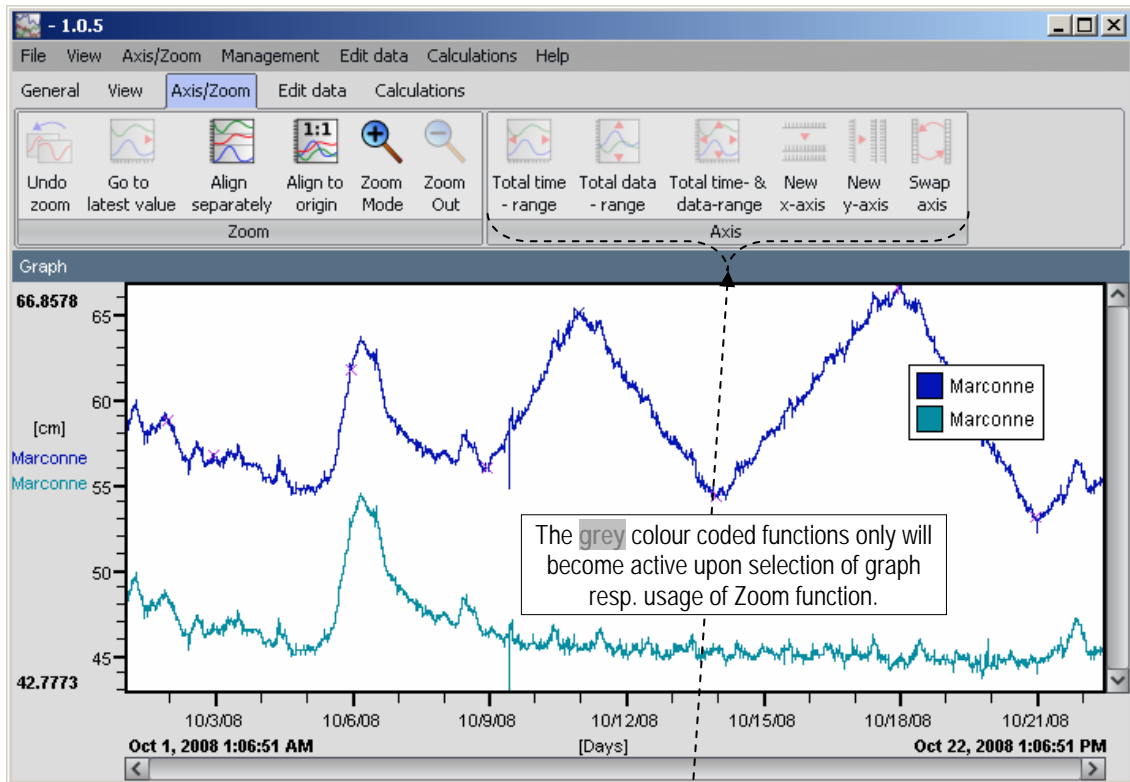
6.7. Further Functions with multiple Graphs

The following describes further functions which only will be available upon display and modification of more than one graph.

To open more than one files simultaneously *ref. to chpt. 6.8.1.*

6.6.1. Viewing several opened Graphs

Fig. 60 – Several opened Graphs in display area



Comment:
As already described several times , similar functions like those shown, as well as other functions, also can be activated from the **Menu-Header-Bar**.

6.6.2. Show “New Y-Axis” and “Swap Axis”

If the unit of measure (e.g. cm) for two or more graphs are identical, upon start they will be displayed with only one Y-Axis. This function provides the display of separate Y-Axis for each single graph. –

After selection of desired Graph (ref. to *chpt. 6.4.1*) click on function **New Y-Axis**. For a horizontal swap of the new Y-Axis click on function **Swap Axis**.

Fig. 61 –“New Y-Axis” and „Swap Y-Axis”

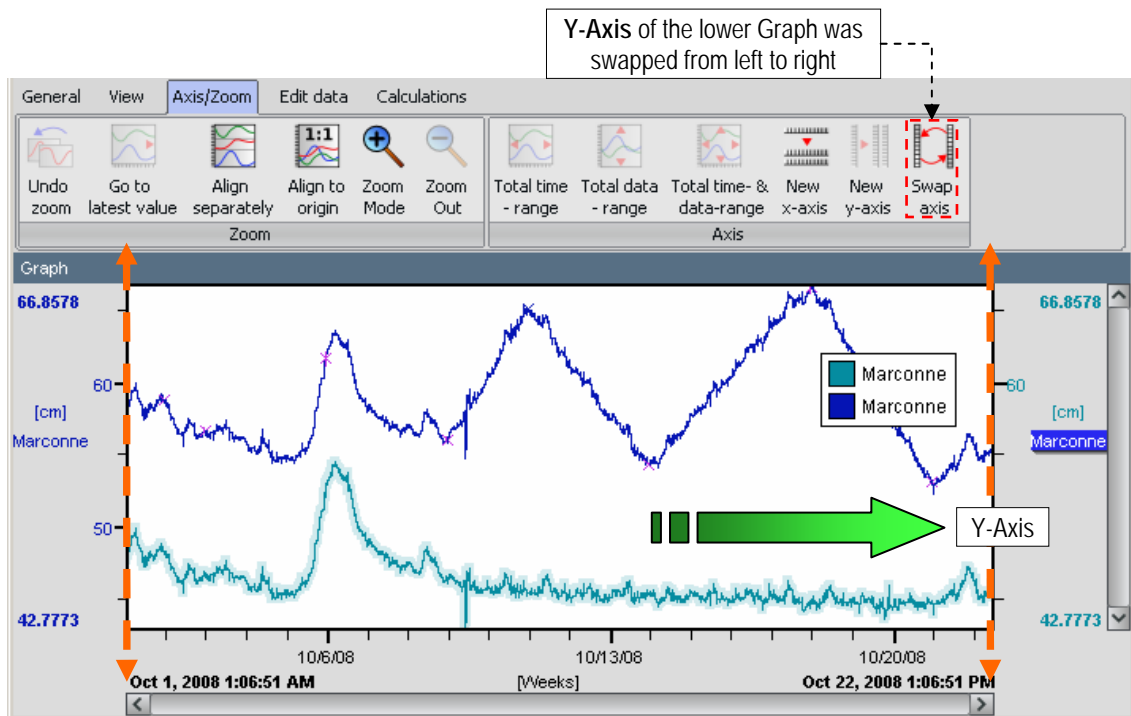
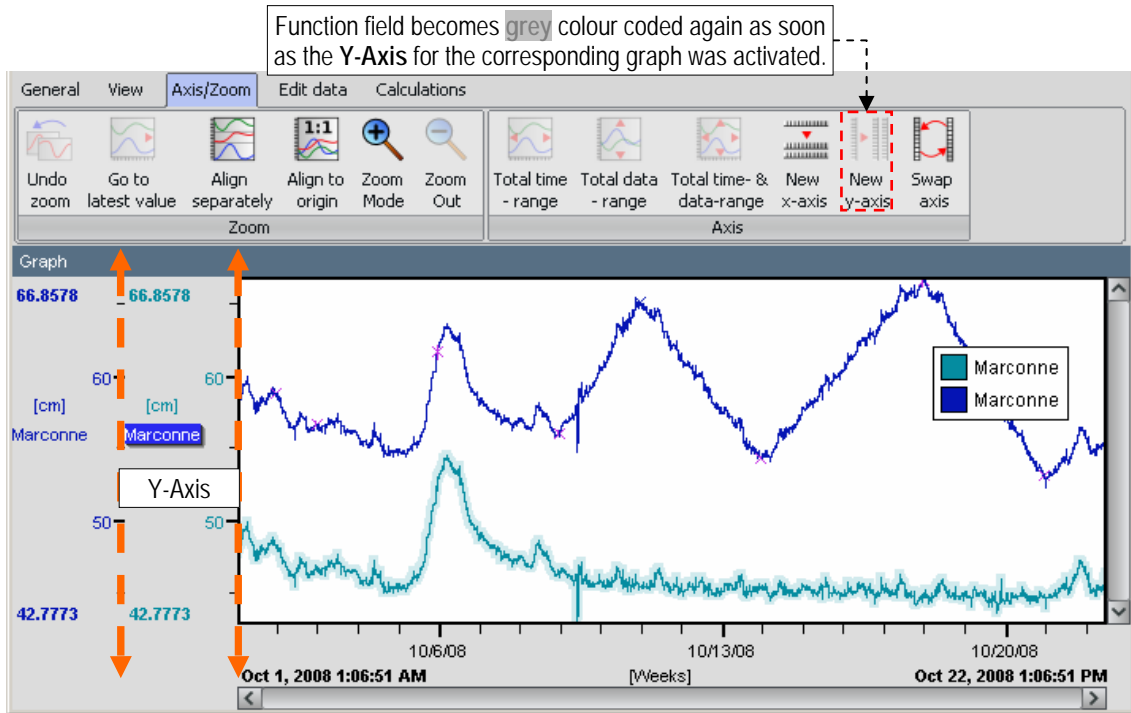
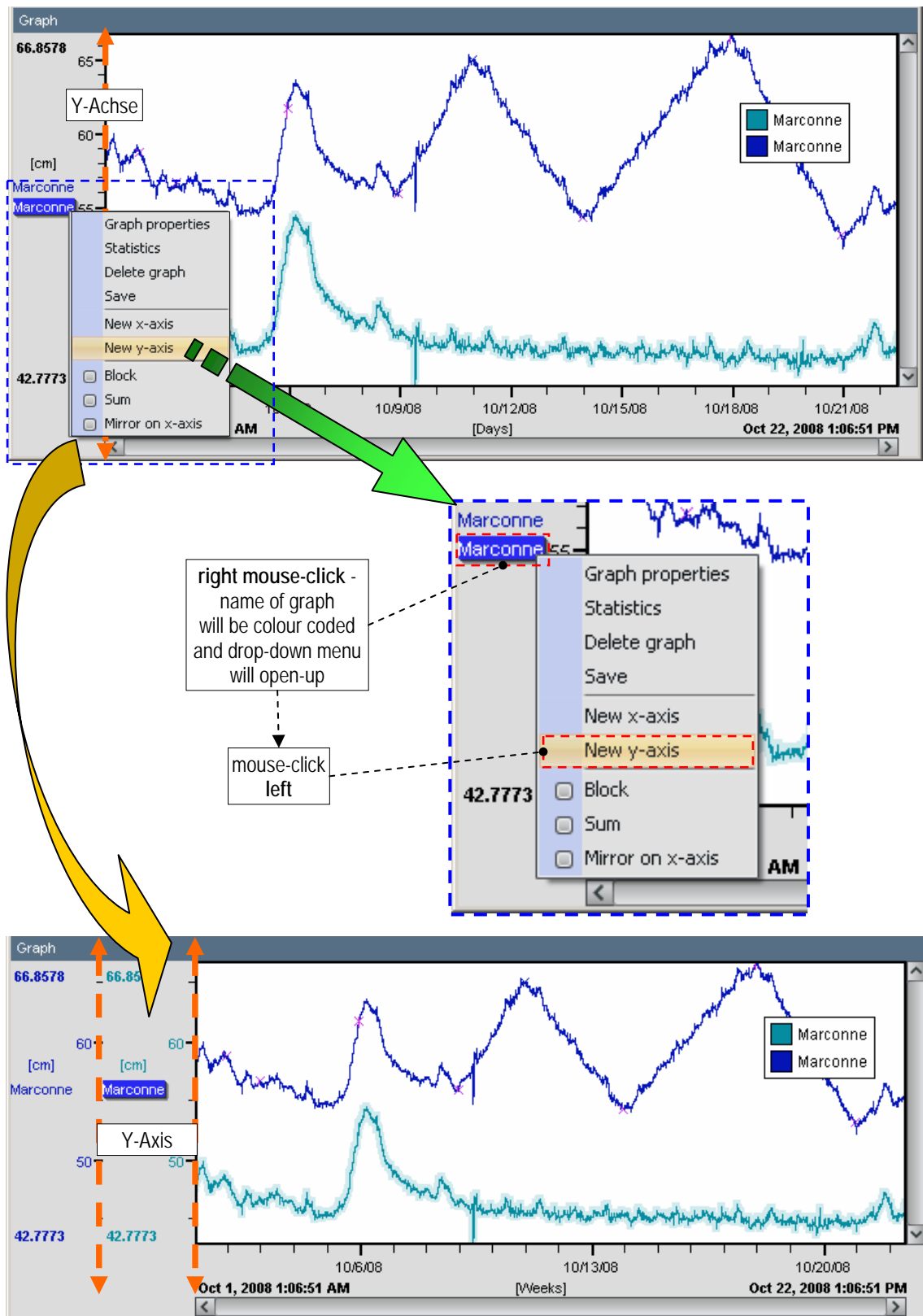


Fig. 62 – Drop-Down Menu – “New Y-Axis” -



6.6.3. Show “New X-Axis” and “Swap X-Axis”

The **X-Axis** always is reflecting the chronological sequence of the graph. Hence if two or more graphs will be displayed the chronological sequence will be presented only upon **one X-Axis** (ref. to **Fig. 63**).

For each graph individually a separate time- resp. **X-Axis** can be displayed. That will be favourable if the periods of the displayed graphs are located widely apart.

After a graph was selected (ref. to **chpt. 6.4.1**) click on function **New X-Axis**. If displayed new X-Axis shall be swapped vertically, with the right mouse-button click on **[Days]**; then use the left mouse-button to click on the Drop-Down Menu function **Swap Axis** (ref. to **Fig. 64**).

Fig. 63 – “Show New X-Axis”

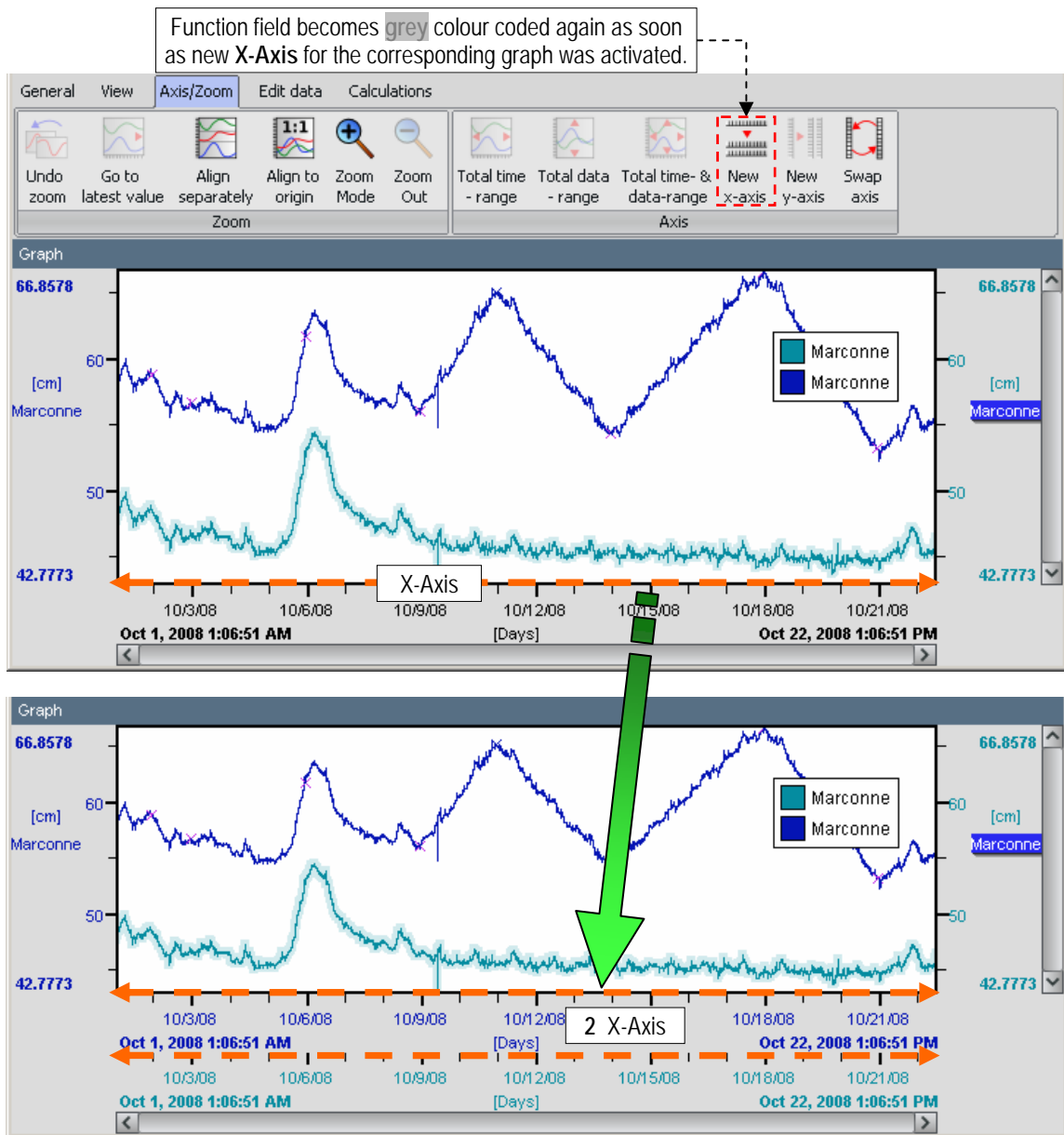
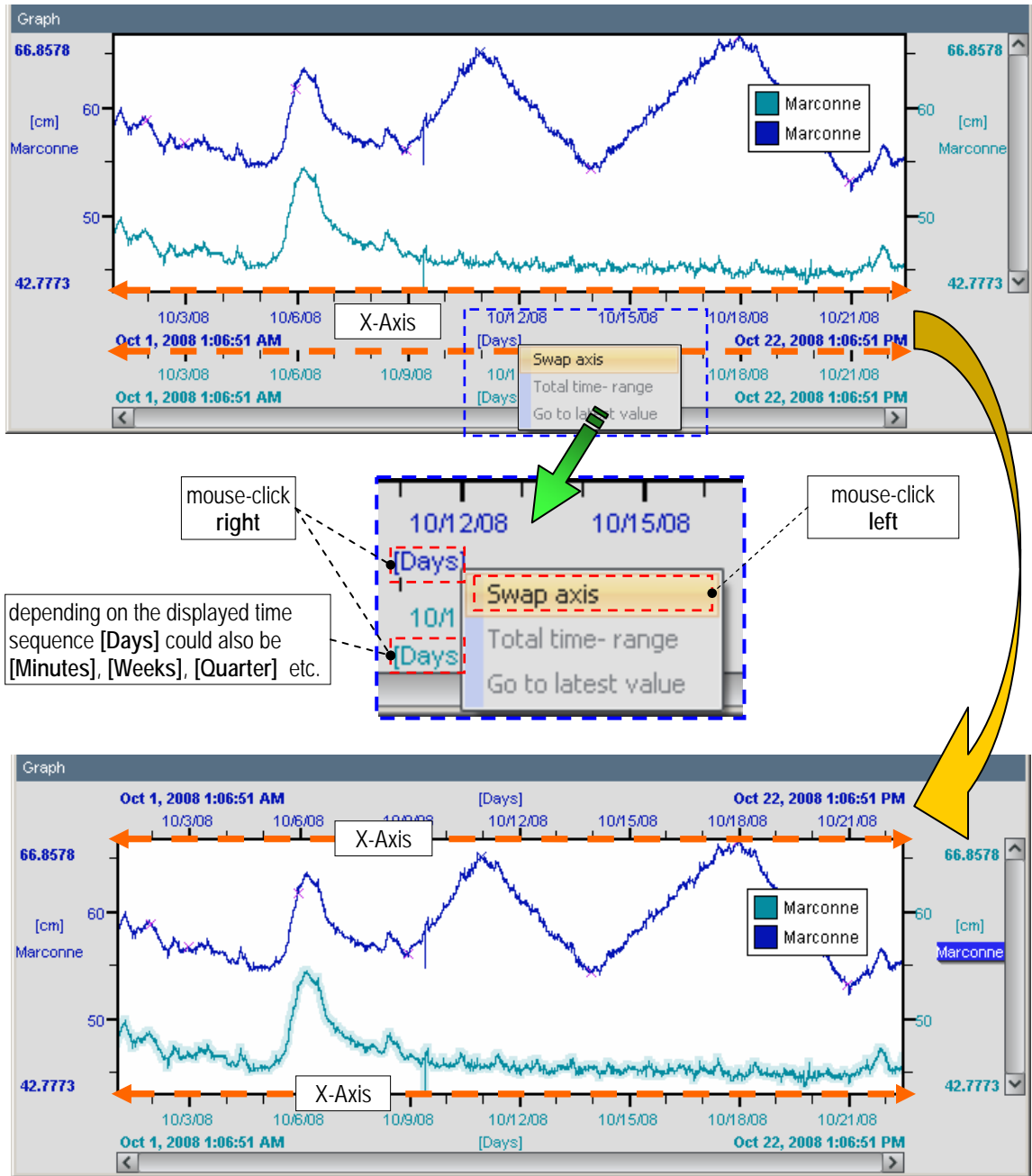
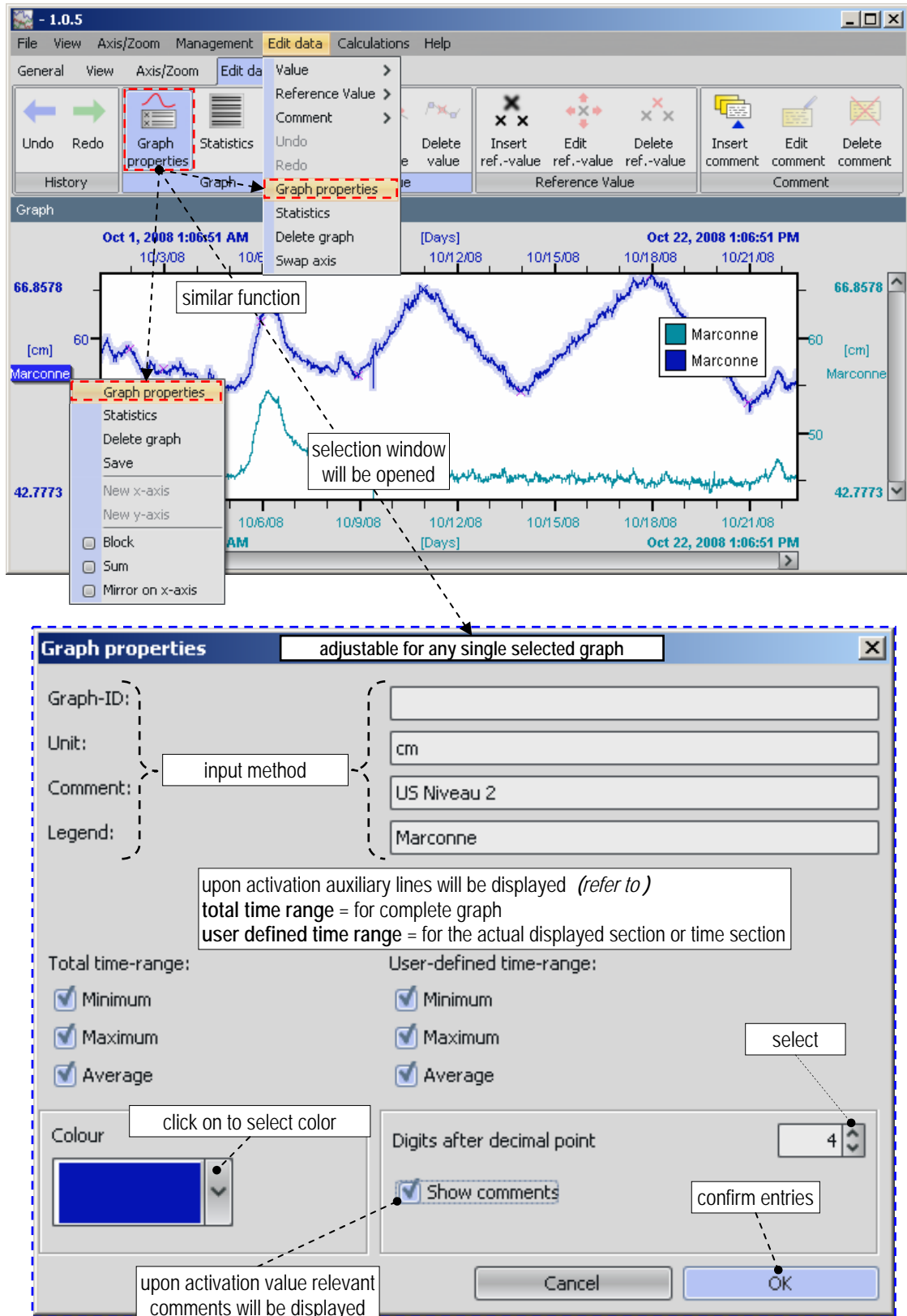


Fig. 64 – “Swap X-Axis”



6.6.4. Adjusting Graph Properties

Fig. 65 – Graph Properties



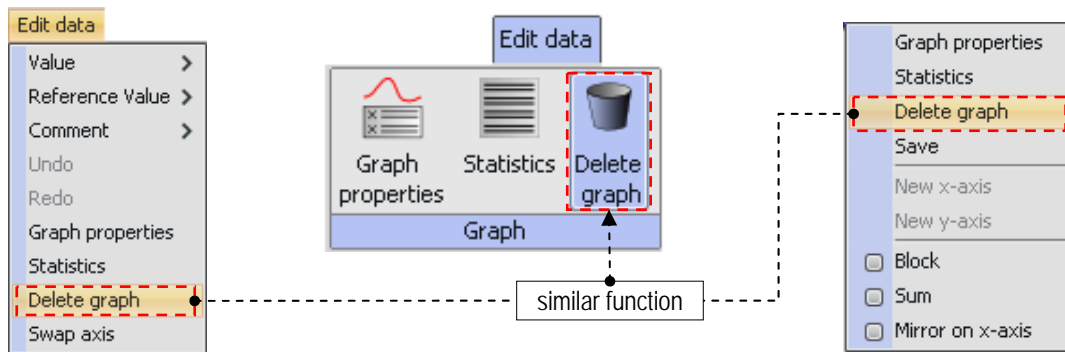
6.8. General Functions on the Display Area

6.7.1. Delete Graph

Are more than one graphs presented in the display area, function **Delete Graph** can be used to delete a single Graph. After the desired graph was selected (ref. to **chpt. 6.4.1 Fig. 42**), this function will be available from the menus of the header-bar and window-bar, as well as upon a right mouse-click on the graph identifier.

If only one graph shows up in the display area, the function **Delete Graph** will be similar to the function of the header-bar **File** item **Close Presentation** (ref. to **chpt. 3.3**).

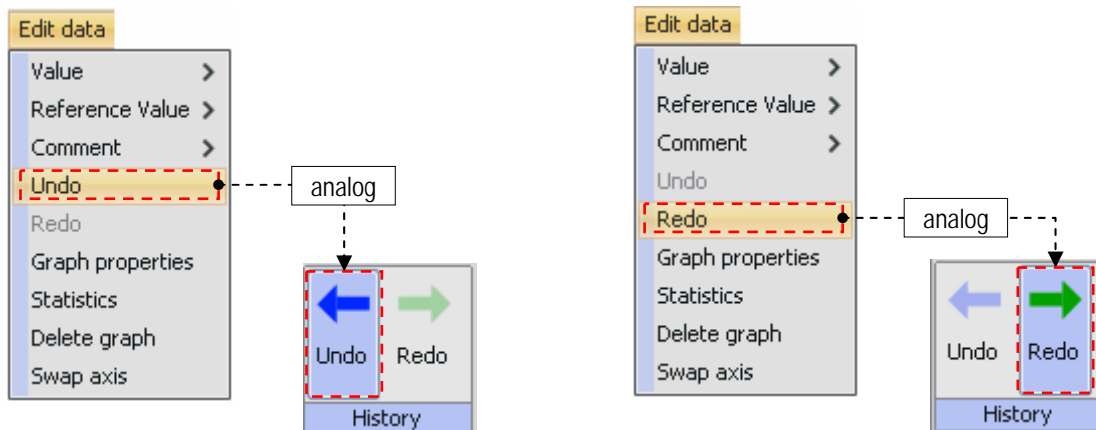
Fig. 66 – Delete Graph



6.7.2. “Undo” and “Redo”

These functions allow, for each single graph, to reverse or to repeat prior steps that have been performed. Then the corresponding menu symbols will become active and highlighted colour coded. However to reverse or to repeat prior performed actions, the corresponding graph has to be activated before (ref. to **chpt. 6.4.1 Fig. 42**). Any changes made on the other displayed graphs will remain unconsidered.

Fig. 67 – Undo / Redo



6.7.3. Arranging multiple Graphs

For the purpose of comparison the graphs variably can be arranged in the display area.

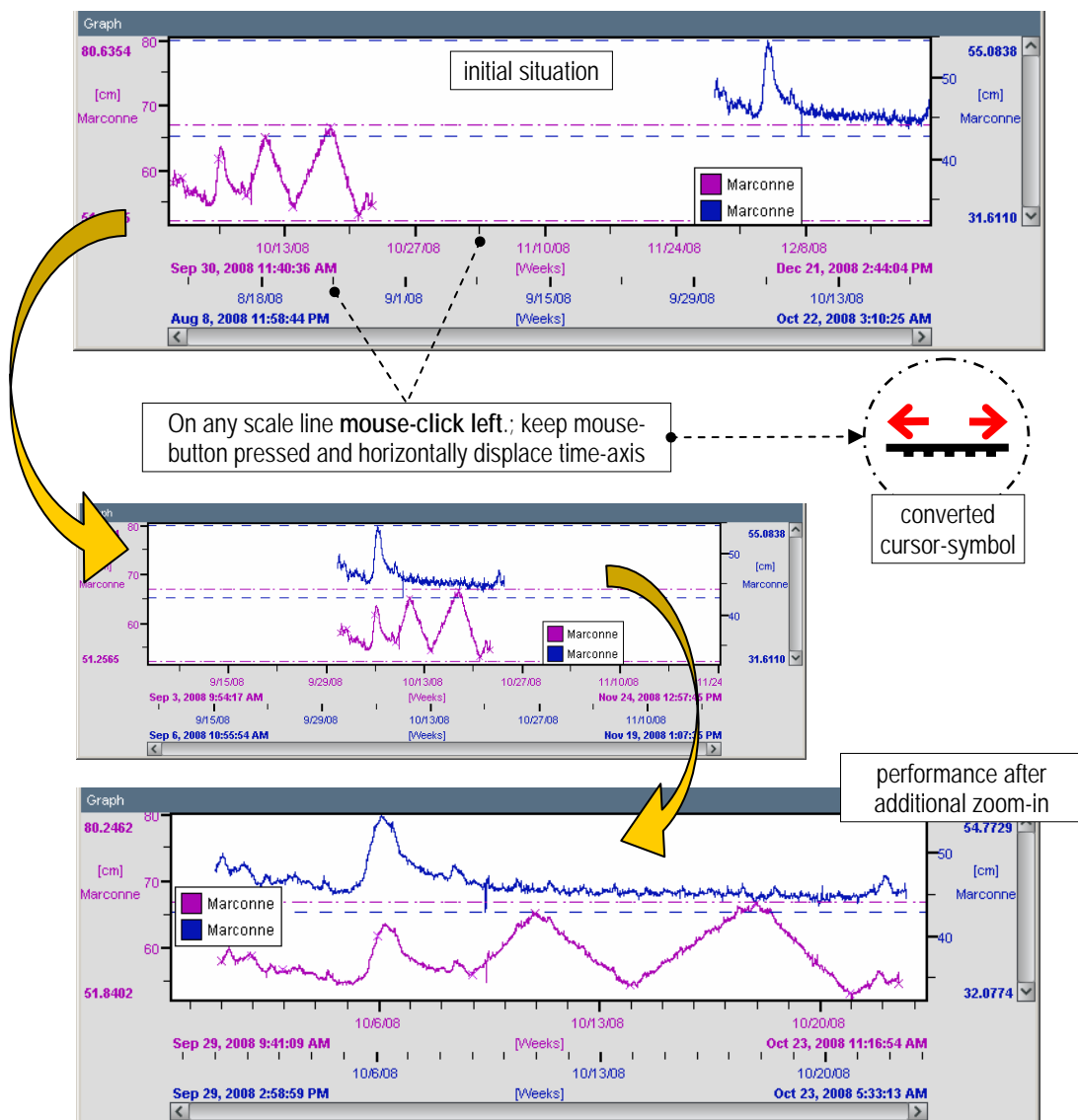
6.7.3.1. Displacing the Time-Axis (X-Axis)

This function provides the manual displacing of the periods for the individual graphs to each other. This particularly will be helpful, if the periods of the accomplished measuring of at least to graphs are to long away form each other, as if they could be displayed on one common time-axis.

Attention: *If for several graphs only one common X-Axis will be used, the time areas just jointly can be displaced.*

The desired scale line on the time-axis (X-Axis) horizontal can be displaced if the left mouse button will be pressed and kept hold. The cursor thereby converts into the pictured symbol.

Fig. 68 – Displacing Time-Axis (X-Axis)



6.7.3.2. Displacing the Value-Axis (Y-Axis)

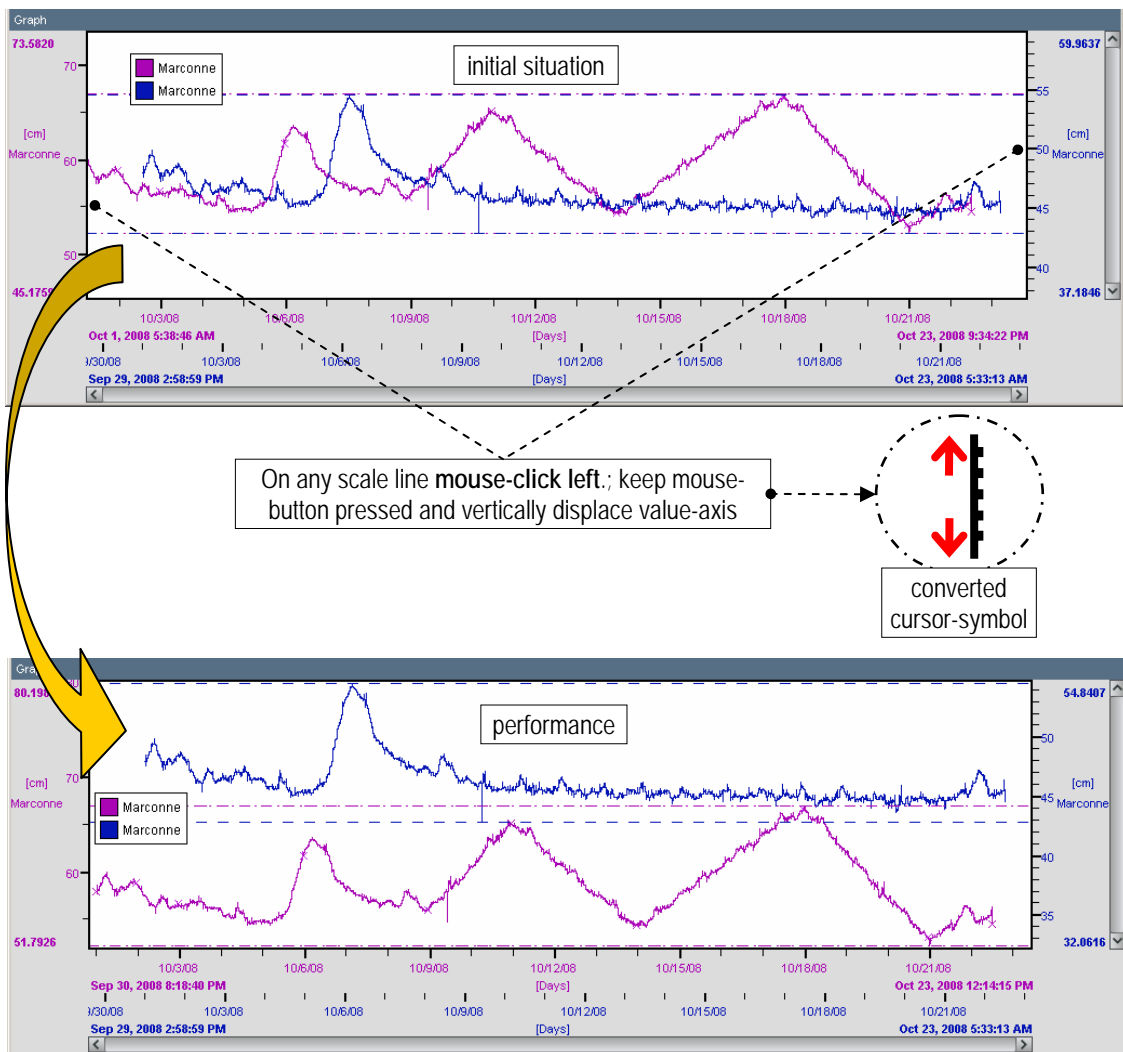
This function provides the manual displacing of the value ranges for the individual graphs to each other. This particularly will be helpful in case of different units of measure or dimensions. Thus values can be displayed reasonable or in line with demand.

Attention: *If for several graphs only one common Y-Axis will be used, the value ranges just jointly can be displaced.*

The desired scale line on the value-axis (Y-Axis) vertical can be displaced if the left mouse button will be pressed and kept hold. The cursor thereby converts into the pictured symbol.

Displacing value range or indicating/displacing certain area (Strg and press/hold left mouse-button)

Fig. 69 – Displace Time-Axis (Y-Axis)



6.7.3.3. Individual Zoom-Function (X/Y-Axis)

Certain time- or value-ranges may be displayed enlarged or downsized. This can be performed if the timestamp or value stamp on the edges of the X- or Y-Axis are clicked on and the faded in border lines were displaced. By this means the area of the graphs, between the faded in borderline and the opposed edge of the axis, will be displayed in a stretched or compressed way. The cursor thereby converts into the pictured symbol.

(Zoom-functions also ref. to *chpt. 0, Fig. 39*)

Attention: If for several graphs only one common X-Axis or Y-Axis will be used, also the borderlines for all displayed graphs commonly will be displaced.

Fig. 70 – Individual Zoom-Function – Time-Axis (X-Achse) [Example 1]

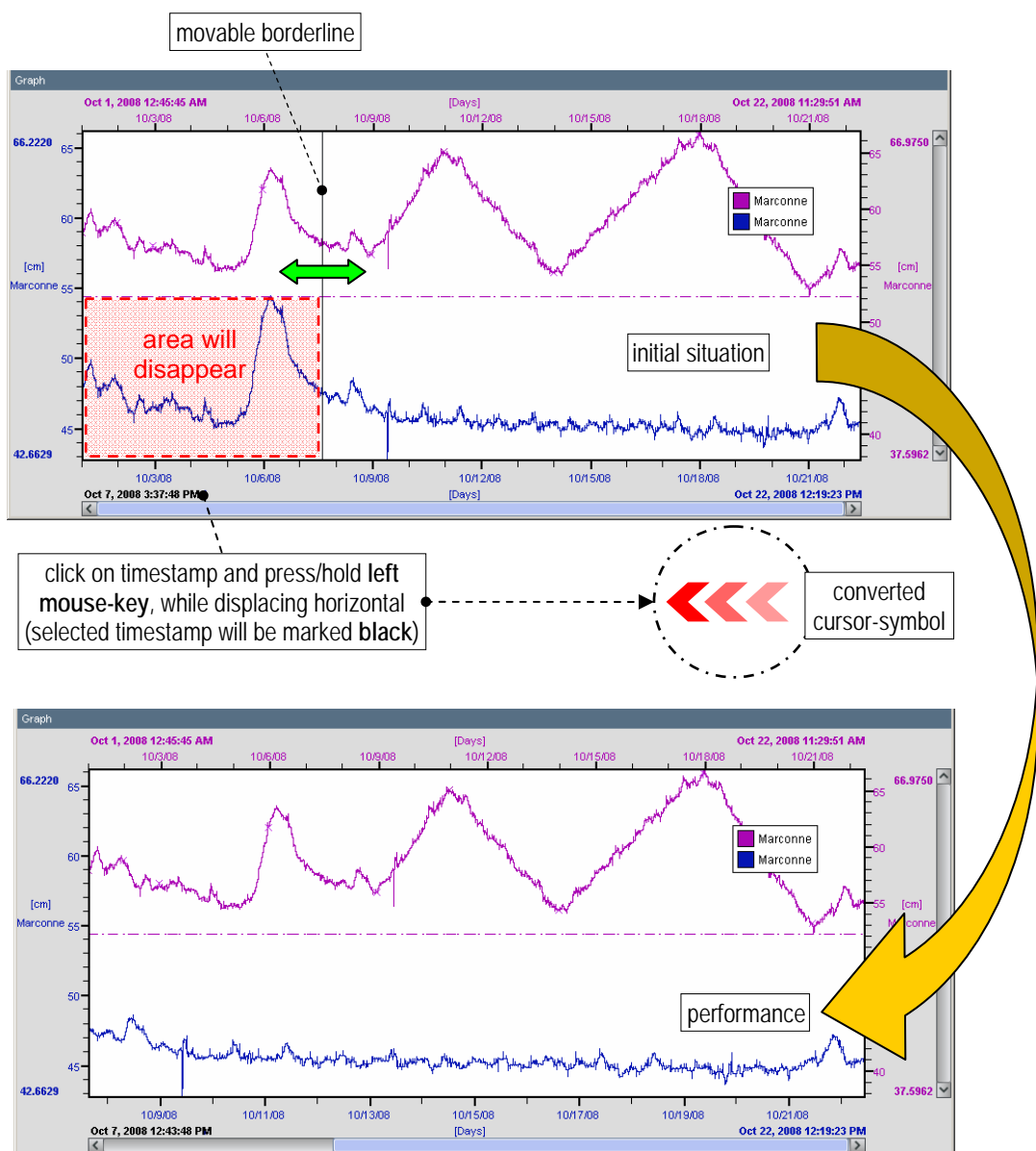


Fig. 71 – Individual Zoom-Function – Time-Axis (X-Axis) [Example 2]

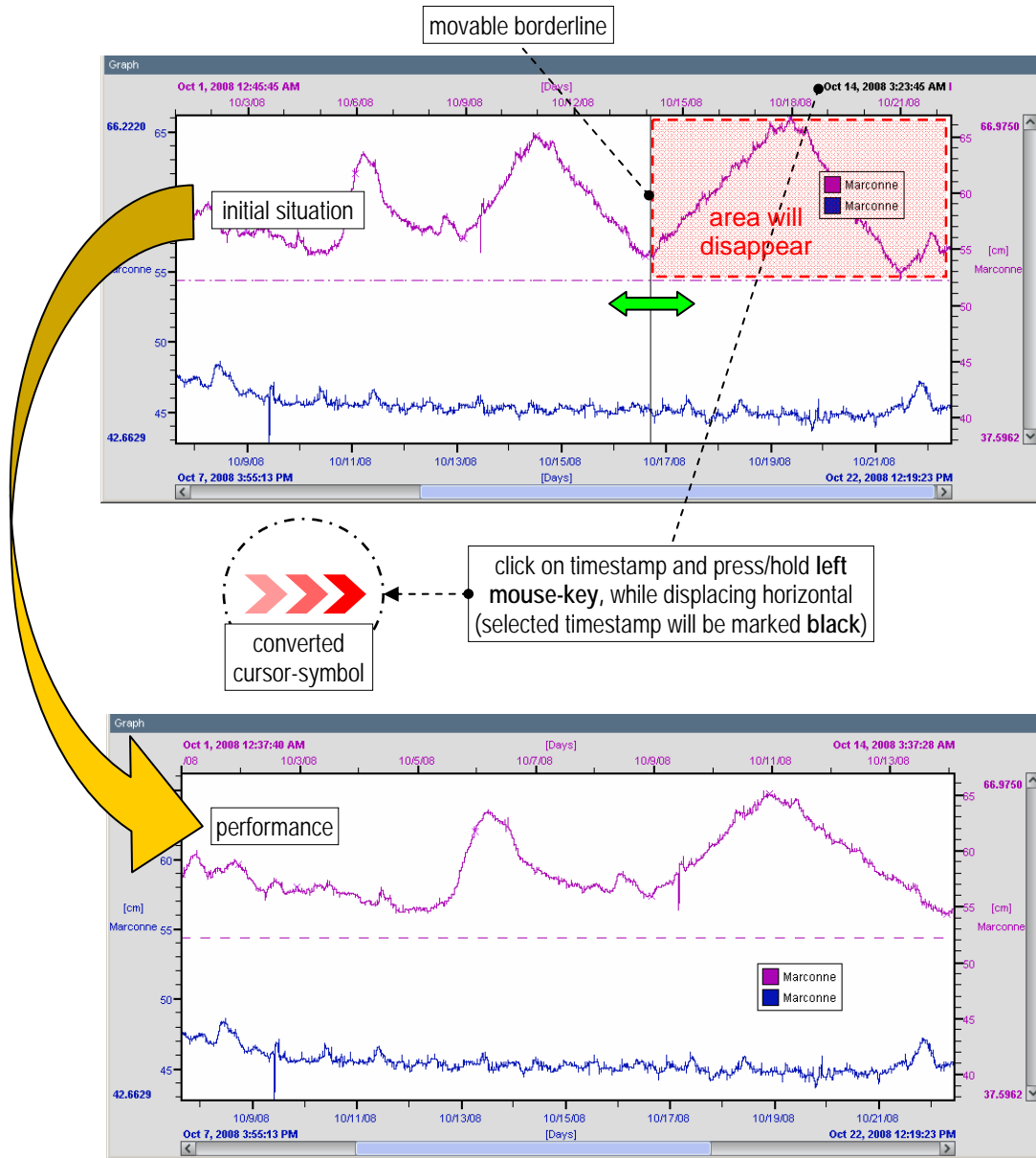


Fig. 72 – Individual Zoom-Function – Value-Axis (Y-Axis) [Example 1]

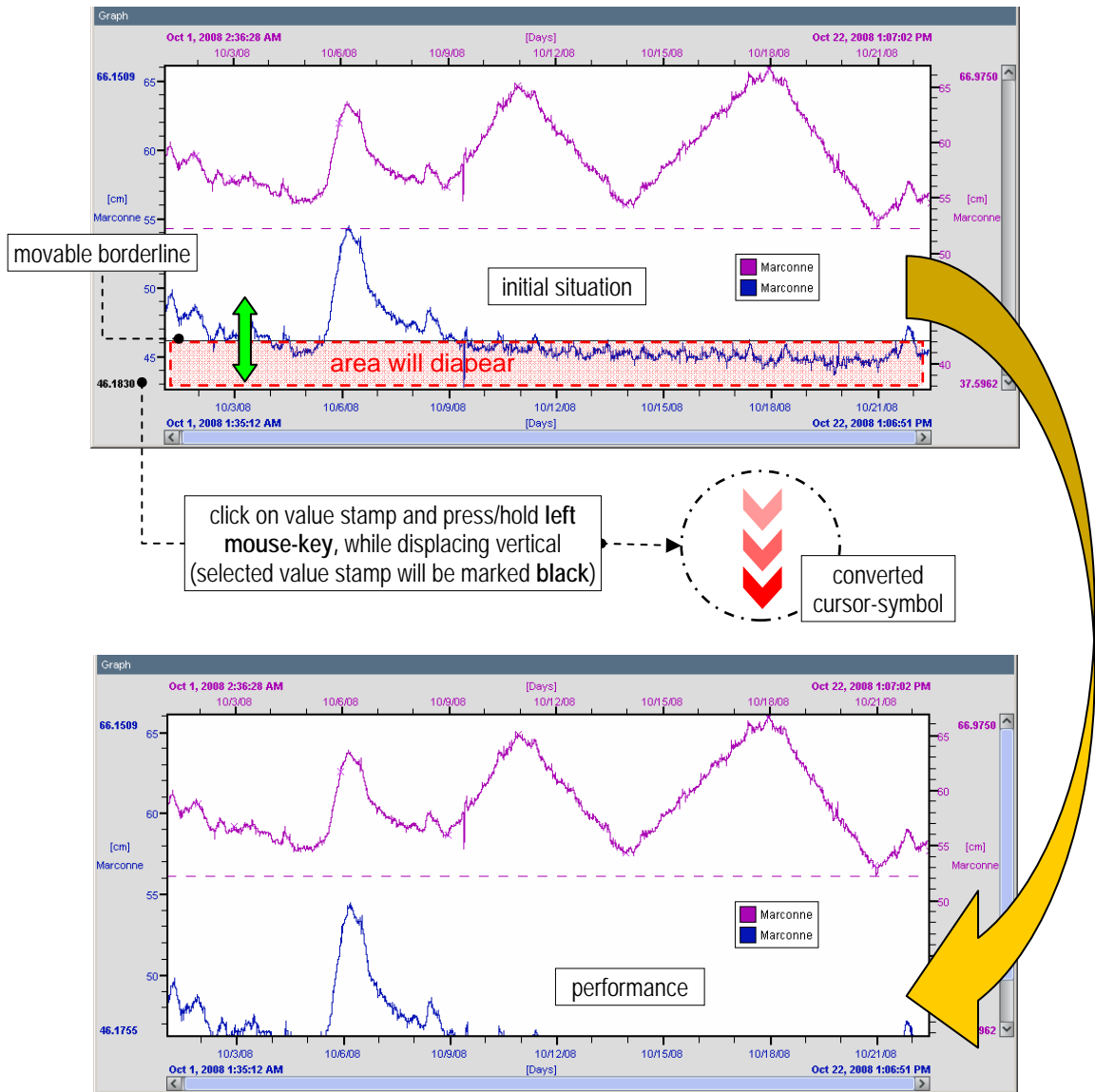
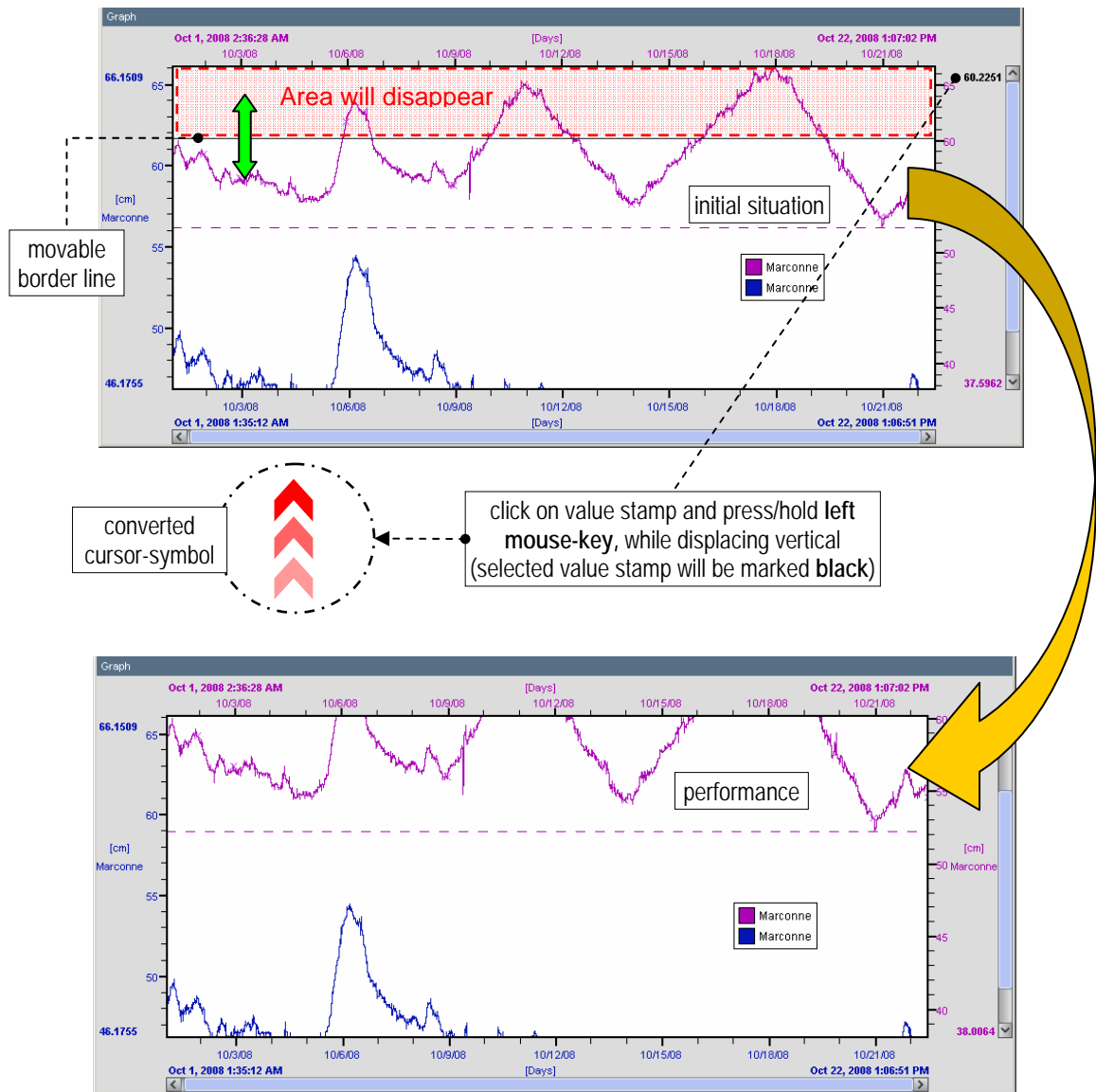


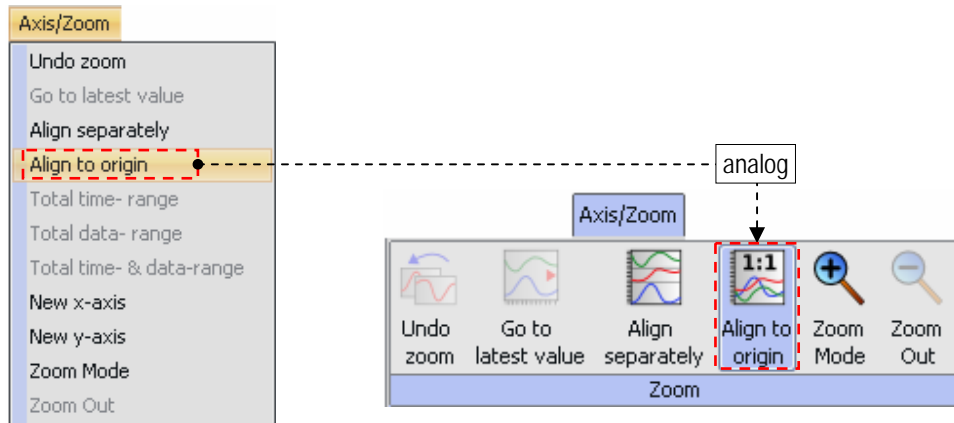
Fig. 73 – Individual Zoom-Function – Value-Axis (Y-Axis) [Example 2]



6.7.3.4. Graphs - Align to origin

After the displayed graphs have been displaced manually this function allows to reverse these arrangement. All graphs will be rearranged that way they originally have been opened and displayed at the start of the session. The sequence will be apparent from the arrangement of the legend.

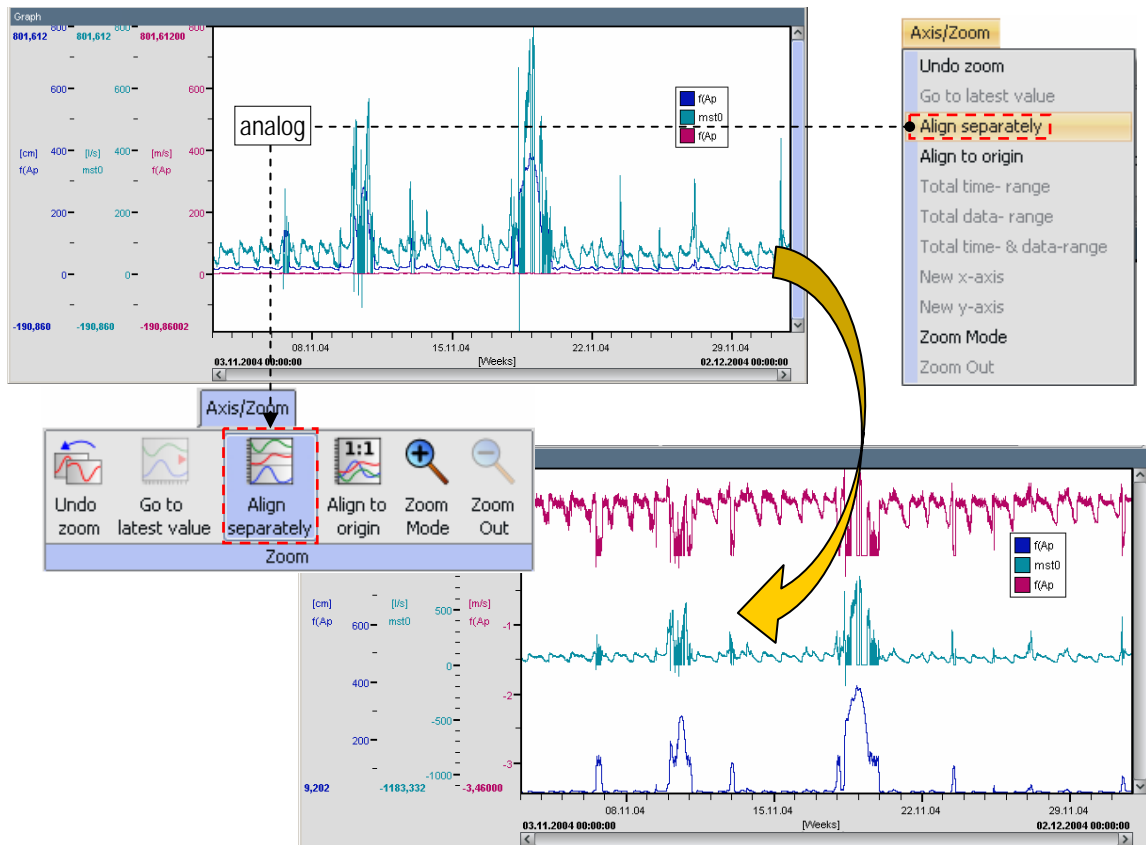
Fig. 74 – Align to Origin



6.7.3.5. Graphs – Align separately

By clicking on the corresponding selection field this function allows overlaying graphs to be aligned and displayed separately.

Fig. 75 – Align separately

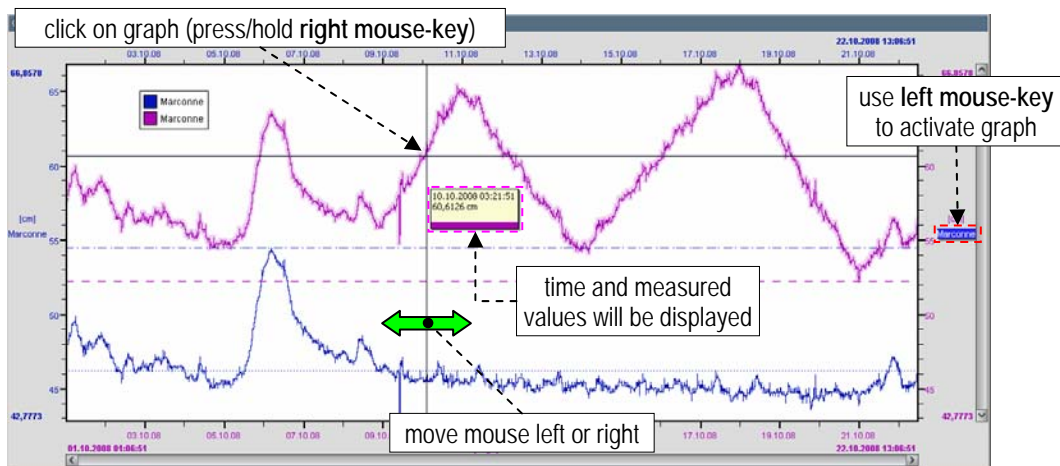


6.7.4. Measured Values displayed on Graph and in Data Sheet

6.7.4.1. Measured Values displayed on Graph

To display measured values of a individual graph separately, initially desired graph has to be selected (ref. to *chpt. 6.4.1 Fig. 42*). While the cursor is positioned near to the selected graph press and keep hold the right mouse button to activate a cross line. By moving the cursor the cross line now will jump to the single measured values along the graph displaying them in a separate window.

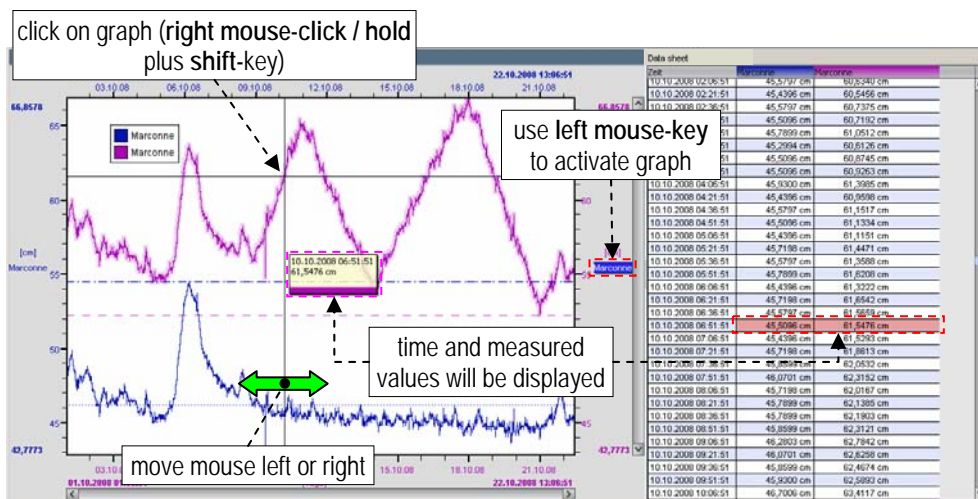
Fig. 76 – Displaying Values on Graph



6.7.4.2. Measured Values displayed on Graph and in Data Sheet

If for a graph also the corresponding data sheet is displayed the measured values for the position of the cross line likewise will be indicated. But that only works if in addition to the method described in *chpt. 6.7.4.1* simultaneously the **shift key** will be pressed and hold. The measured values will be indicated colour coded.

Fig. 77 – Displaying Values on Graph and in Data Sheet

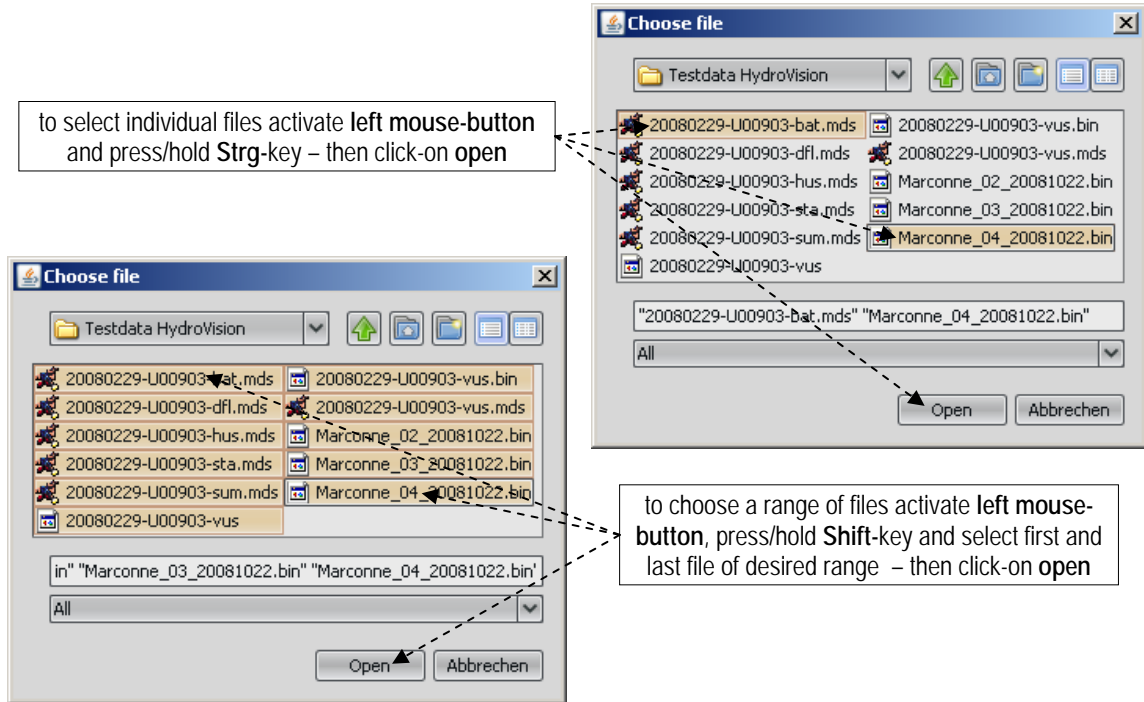


6.9. General Function within the Menu-Bar

6.8.1. Opening multiple files simultaneously

(also ref. to *chpt. 3.2*)

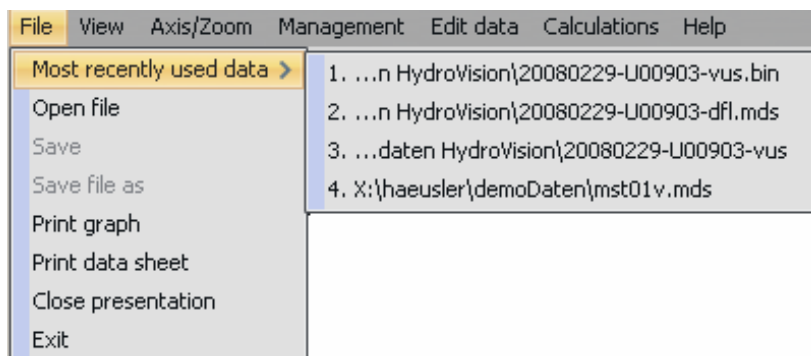
Fig. 78 – Opening multiple files



6.8.2. Most recently used Data

By this function the four most recently used files will be listed. If selected by mouse-click the individual files can be opened again (also ref. to *chpt 3.1*)

Fig. 79 – Most recently used data

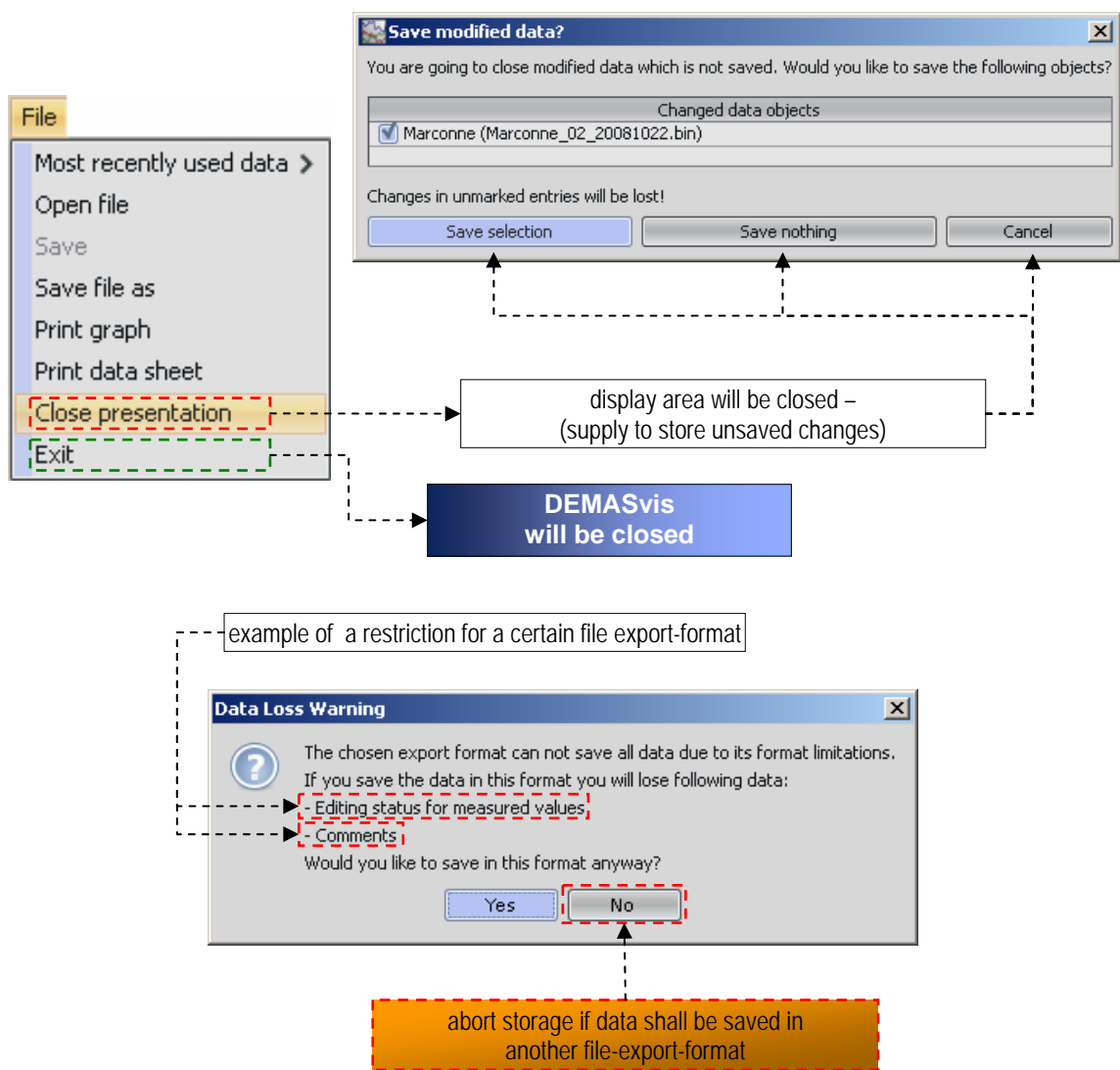


6.8.3. Close Presentation and Exit

Function **Close Presentation** will close actual display of all graphs and data sheets. If any changes on the displayed graphs or data sheets have been performed during the working session, storage for unsaved changes will be supplied. Initially then the display area will be closed. The opening window finally will be closed by selecting **Exit** (also ref. to **chpt. 3.3**).

If certain data can not be saved properly due to restrictions for the chosen file-export-format a **Data Loss Warning** will show up. The storage process can be aborted at this time or data can be saved in another export-format.

Fig. 80 – “Close Presentation“ and “Exit“



7. Appendix

8. Subject Index

9. Revision Matrix

Date of Change	Originator	Change / Comment	Revision Month/Year	Hardware Version	Software Version
25-05-2009	P. Bohne	New Document	A 05/09		
17-05-2010	P. Bohne	new description Extract Extreme Values	B 05/10		

Detail of changes:

17-05-2010: refer to new chapter **6.5.3** - added detailed function description to extract extreme values and to display in separate graph