

purpose

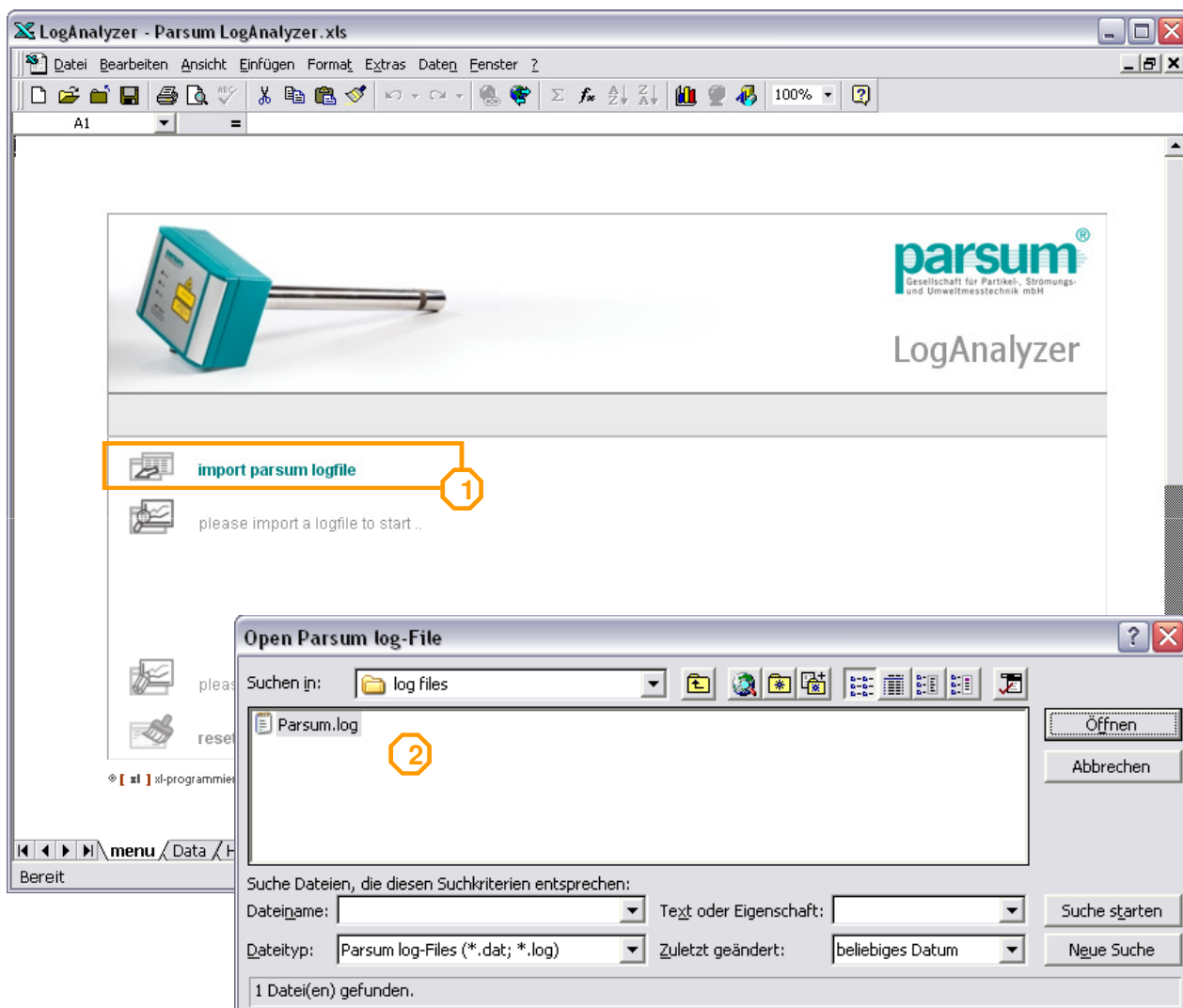


with the LogAnalyzer, you will be able to explore and analyze log files created by the parsum „Inline Particle Probe“.

the LogAnalyzer is designed to perform within all excel version from „excel 97“ onwards.

parsum® - Gesellschaft für Partikel-, Strömungs- und Umweltmeßtechnik mbH
Reichenhainer Straße 34-36, D-09126 Chemnitz, Germany,
Tel.: +49 (0)371 26758690, Fax.: +49 (0)371 26758699
Email: info@parsum.de Internet: www.parsum.de

[xl]® programmierung © walther michael gross
» customized software solutions based on microsoft excel «
Email: info@xl-programmierung.de Internet: www.xl-programmierung.de



import a logfile using an empty LogAnalyzer template ..

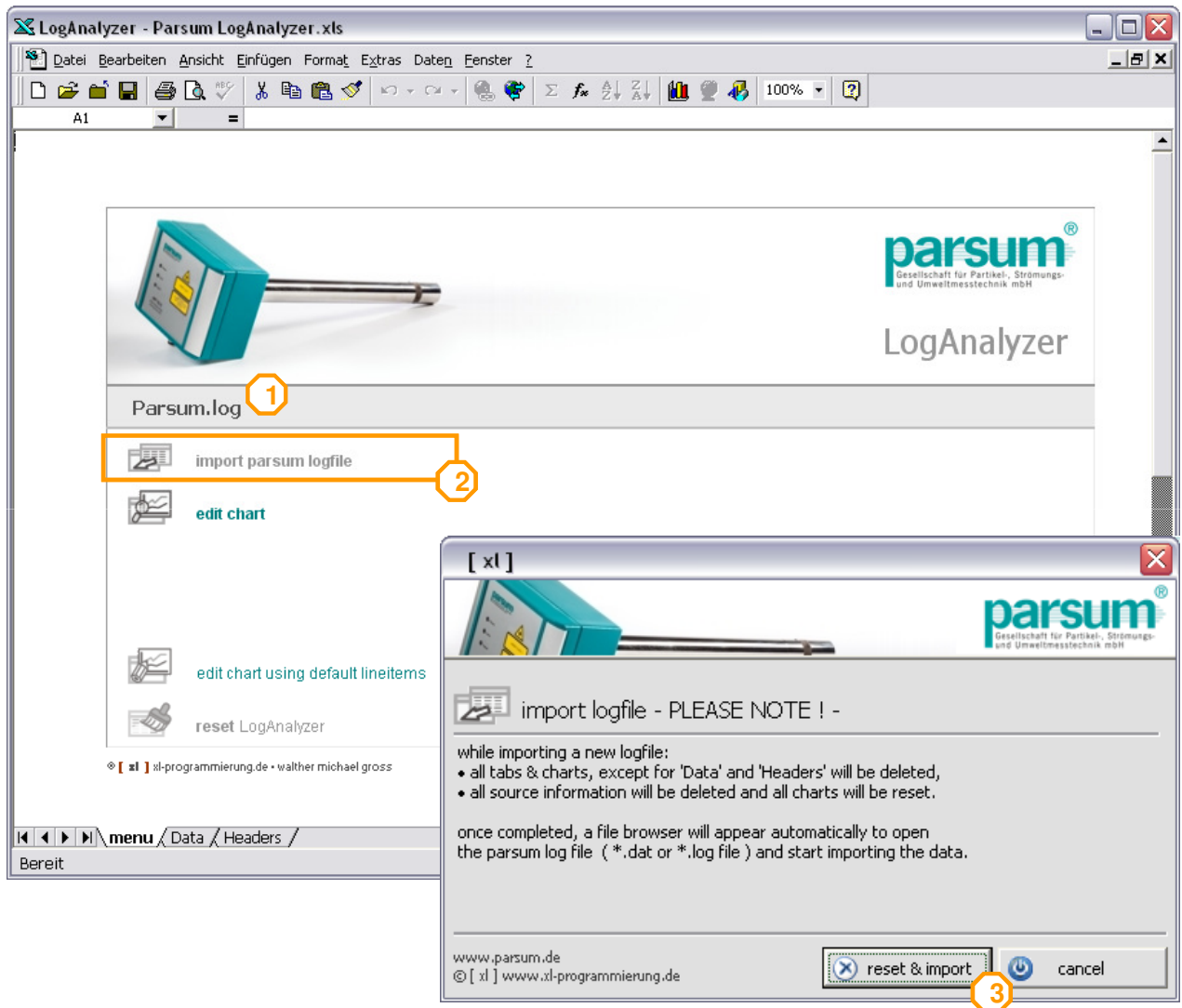
(1) import a logfile

the first time you open the LogAnalyzer, the file will be empty. the highlighted „import parsum logfile“ menu item indicates that the file is ready to be loaded with data.

in order to start a data import click on the „import parsum logfile“ icon.

an „open file“ browser (2) will appear to select and open a parsum logfile.
the data import starts automatically once you selected a logfile.

> *import continues on page 4 ..*



import a logfile using an already preloaded LogAnalyzer file ..

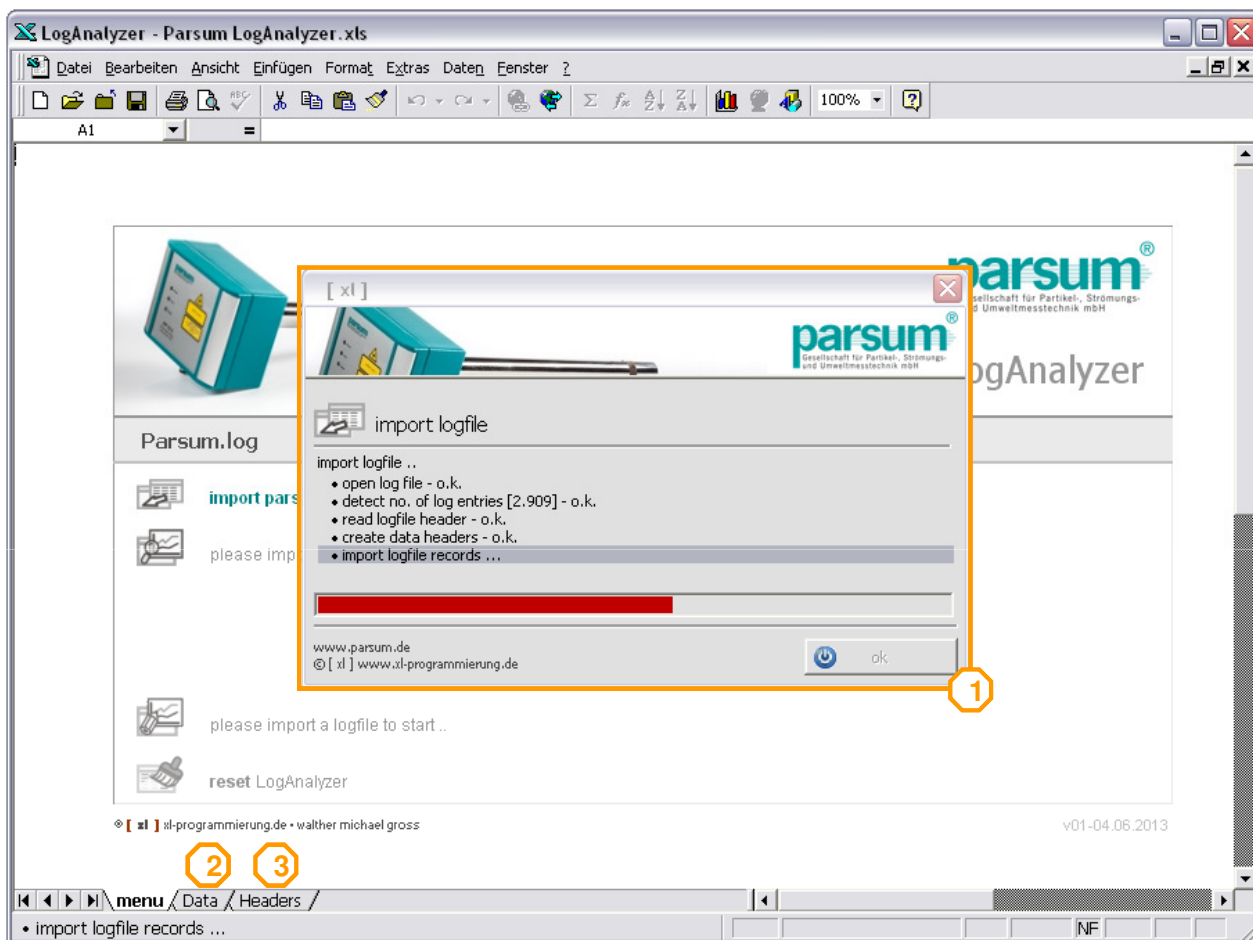
- (1) **currently loaded file**
the filename listed in the [menu] tab indicates that a logfile is already loaded within the LogAnalyzer.
- (2) **import a log file**
the greyed out „import parsum logfile“ menu item indicates that a logfile is already loaded.
in order to start a data import click on the „import parsum logfile“ icon.
- (3) **reset current entries before import a new logfile**
the existing data must be resetted before a new logfile can be imported.

please note:

- all custom tabs and charts will be deleted,
- all source information will be deleted and all standard charts will be reset.



click on „reset & import“ to reset the LogAnalyzer - once completed, an „open file“ browser will appear.
select and open a parsum logfile; the data import starts automatically once you selected a logfile.



import in progress ..

(1) import progress

while importing a logfile, a progress form lists the major import steps. the logfile will be validated and the header information as well as all data entries will be imported into the LogAnalyzer file.

all logfile information will be stored inside the current LogAnalyzer file.
by saving the current file, all data will retained until you reset or
import another logfile into the LogAnalyzer.

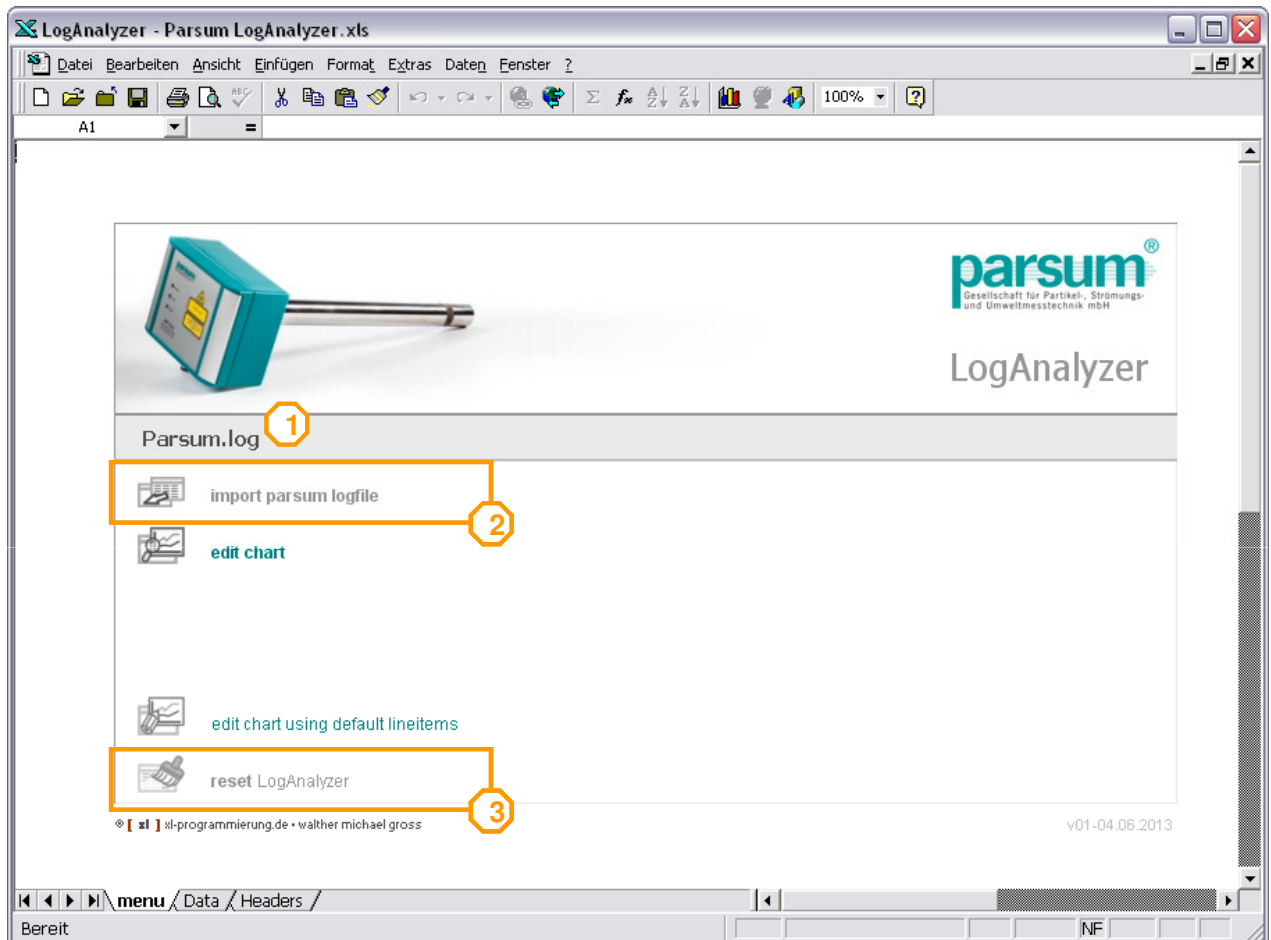


(2) raw data

all logfile information will be stored within the [Data] tab.

(3) header information

all header information will be stored within the [Headers] tab.



import completed.

(1) imported logfile

once a logfile has been successfully imported, the logfile name will be displayed on top of the [menu] tab and the „import parsum logfile“ menu item (2) will be greyed out to indicate that the LogAnalyzer is loaded with data.

you might store the file using the „save“ or „save-as“ functionality before you start analyzing the data.

(3) reset the LogAnalyzer

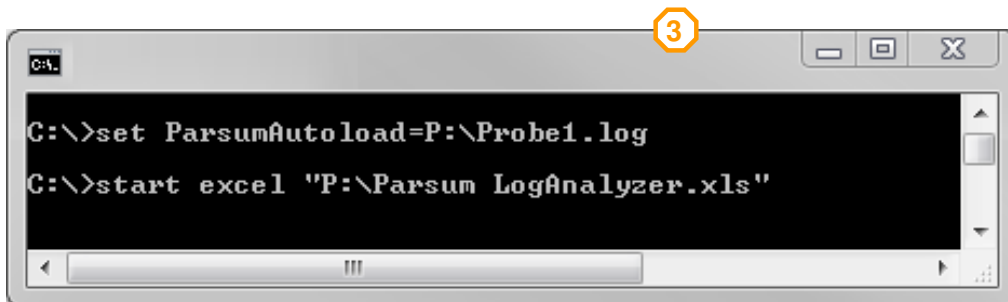
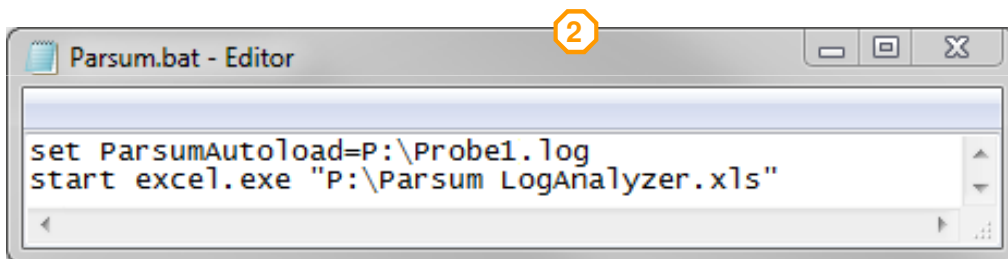
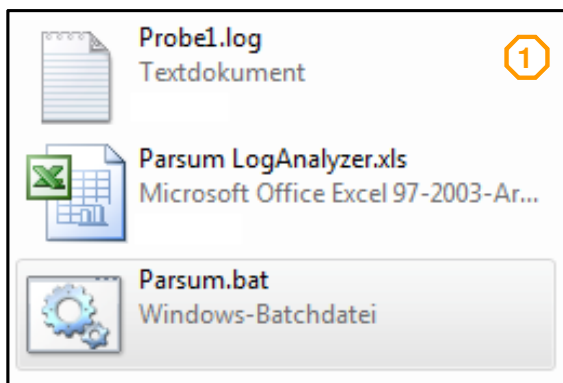
click on the „reset LogAnalyzer“ icon to reset the LogAnalyzer file.

please note:

- all custom tabs and charts will be deleted,
- all source information will be deleted and all standard charts will be reset.



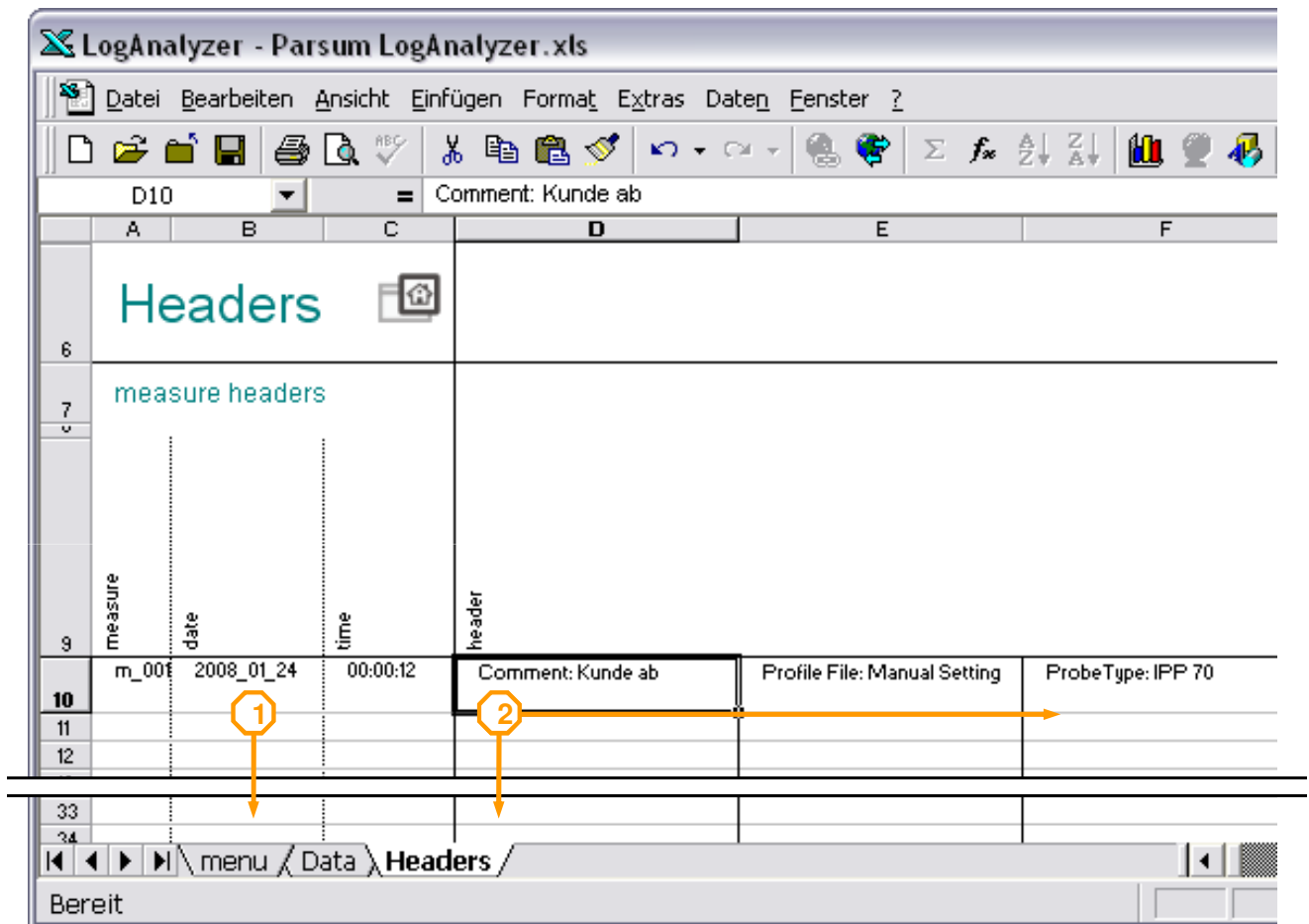
start the LogAnalyzer and import a logfile using a batch file



start the LogAnalyzer and automatically import a logfile using a batch file ..

for this example, let's assume we have the LogAnalyzer file as well as the logfile [Probe1.log] which we want to import within the [P:\] drive:

- (1) for this example, let's assume we have the LogAnalyzer file as well as the logfile [Probe1.log] which you want to import, both located within the [P:\] drive:.
- (2) **create and execute a batch file**
the 1st command defines the logfile to be imported by setting the „ParsumAutoload“ parameter. please provide the full filename and path without quotation marks .
the 2nd command starts excel along with the LogAnalyzer .
- (3) **using the command prompt**
first set the „ParsumAutoload“ parameter and then start excel along with the LogAnalyzer file.



review the logfile headers

navigate to the [Headers] tab to review all header available within the currently imported logfile.
the parsum „Inline Particle Probe“ application creates a header within the logfile every time a measure is being started.

(1) chronicle

each of the headers will be listed in chronicle order as read out from the logfile.
a „measure“ number (e.g. m_001) will be added to each header record.

(2) header content

each of the headers will be splitted into its components and listed column-wise next to the cronicle information. this makes it easy for you to review changes in the probe settings especially while running multiple measures implementing a probe.

sheet protection



the [Headers] tab is protected against adjustments such as adding rows and columns in order to assure the data import into a static location which you can use as a source for your custom calculation and data visualization.

| measure & time | | | | custom values | | | | | | volume distribution | | | | | | sieve distribution - f | |
|----------------|------------|----------|---------------|---------------|----------|----------|----------|----------|----------|---------------------|----------|----------|----------|----------|----------|------------------------|----------|
| measure | measure ID | time | particle size | value 01 | value 02 | value 03 | value 04 | value 05 | value 06 | value 07 | value 08 | value 09 | value 10 | value 11 | value 12 | value 13 | value 14 |
| m_001 | id_001 | 00:00:42 | | | | | | | | | | | | | | | |
| m_001 | id_002 | 00:00:42 | | | | | | | | | | | | | | | |
| m_001 | id_003 | 00:01:42 | | | | | | | | | | | | | | | |
| m_001 | id_004 | 00:01:42 | | | | | | | | | | | | | | | |
| m_001 | id_005 | 00:02:42 | | | | | | | | | | | | | | | |
| m_001 | id_006 | 00:02:42 | | | | | | | | | | | | | | | |
| m_001 | id_007 | 00:03:42 | | | | | | | | | | | | | | | |
| m_001 | id_008 | 00:03:42 | | | | | | | | | | | | | | | |
| m_001 | id_009 | 00:04:42 | | | | | | | | | | | | | | | |
| m_001 | id_010 | 00:04:42 | | | | | | | | | | | | | | | |
| m_001 | id_011 | 00:05:42 | | | | | | | | | | | | | | | |
| m_001 | id_012 | 00:05:42 | | | | | | | | | | | | | | | |
| m_001 | id_013 | 00:06:42 | | | | | | | | | | | | | | | |
| m_001 | id_014 | 00:06:42 | | | | | | | | | | | | | | | |
| m_001 | id_015 | 00:07:42 | | | | | | | | | | | | | | | |
| m_001 | id_016 | 00:07:42 | | | | | | | | | | | | | | | |

review the logfile data

navigate to the [Data] tab to review the content available within the currently imported logfile created by the parsum „Inline Particle Probe“ application.

(1) chronicle

each data record will be enriched with the „measure no.“ and „measure ID“ within the first two columns.

„measure number“ the „measure“ (e.g. m_001) can be reviewed within the [Headers] tab which provides all probe settings while performing the measure.

„measure ID“ the „measure ID“ (e.g. id_001, id_002 ...) represents a consecutive numbering of all data records within a single measure. the ID starts with one on any measure.

(2) custom values

within the [Data] tab, you will find six custom value fields.

per default, these fields are empty and will be deleted while the LogAnalyzer is being reset.

you might use this fields to post comparative data in order to display them in a particular linechart.

(3) content

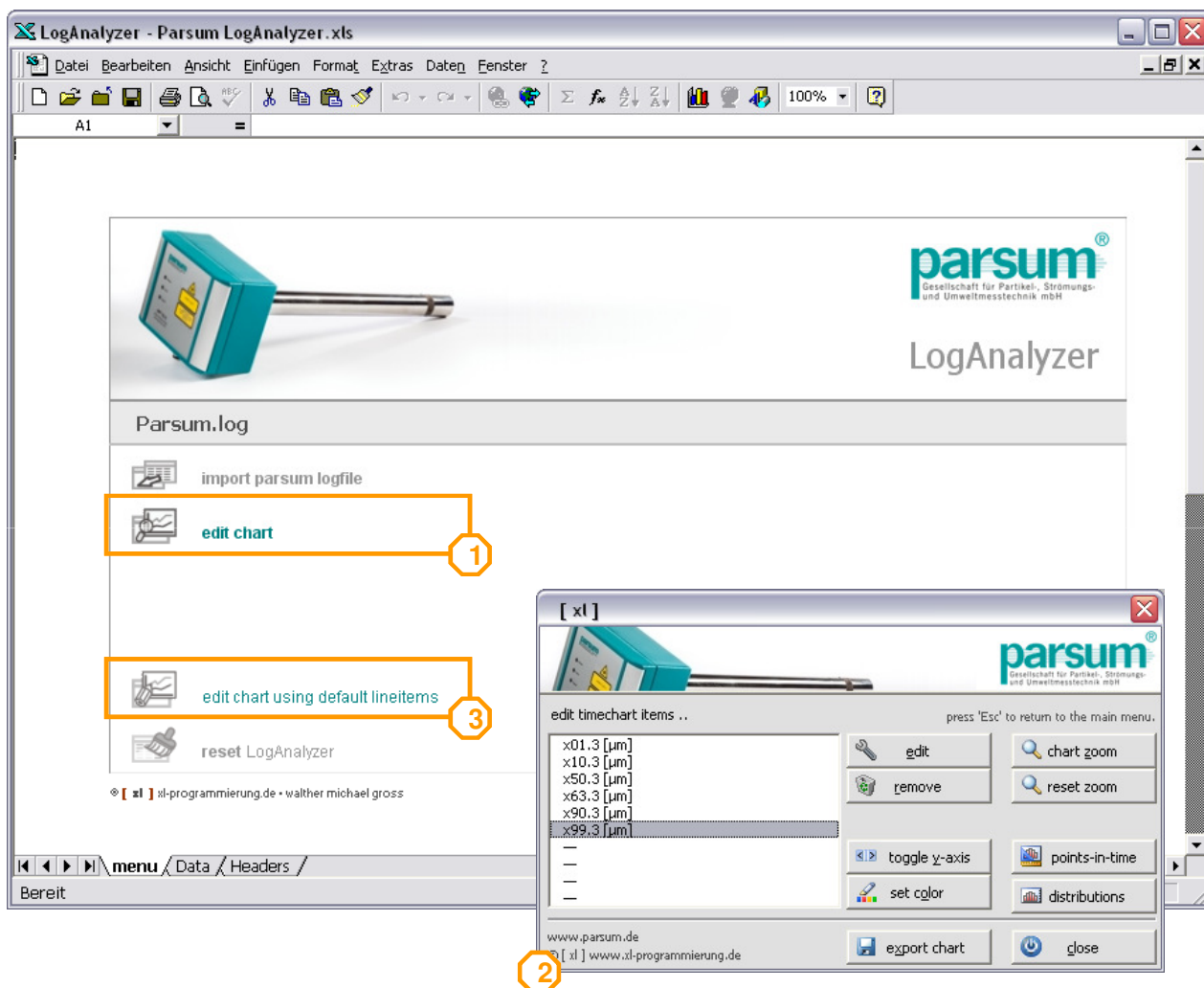
all logfile records will be splitted into its data fields and listed column-wise next to the custom fields.

„Q0 & Q3 (lgx) distribution“ the „Q0 (lgx) distribution“ as well as the „Q3 (lgx) distribution“ is captured by the „Inline Particle Probe“ application and provided within its logfiles.

„q0 & q3 (lgx) density“ the „q0 (lgx) density“ as well as the „q3 (lgx) density“ will be calculated during the logfile import and listed at the far right of each data record.

sheet protection

the [Data] tab is protected against adjustments such as adding rows and columns in order to assure the data import into a static location which you can use as a source for your custom calculation and data visualization.



review and edit charts.

(1) edit chart

click on the „edit chart“ icon to access the main line-chart menu (2).

> [learn more about the main linechart menu from page 11 onwards ..](#)

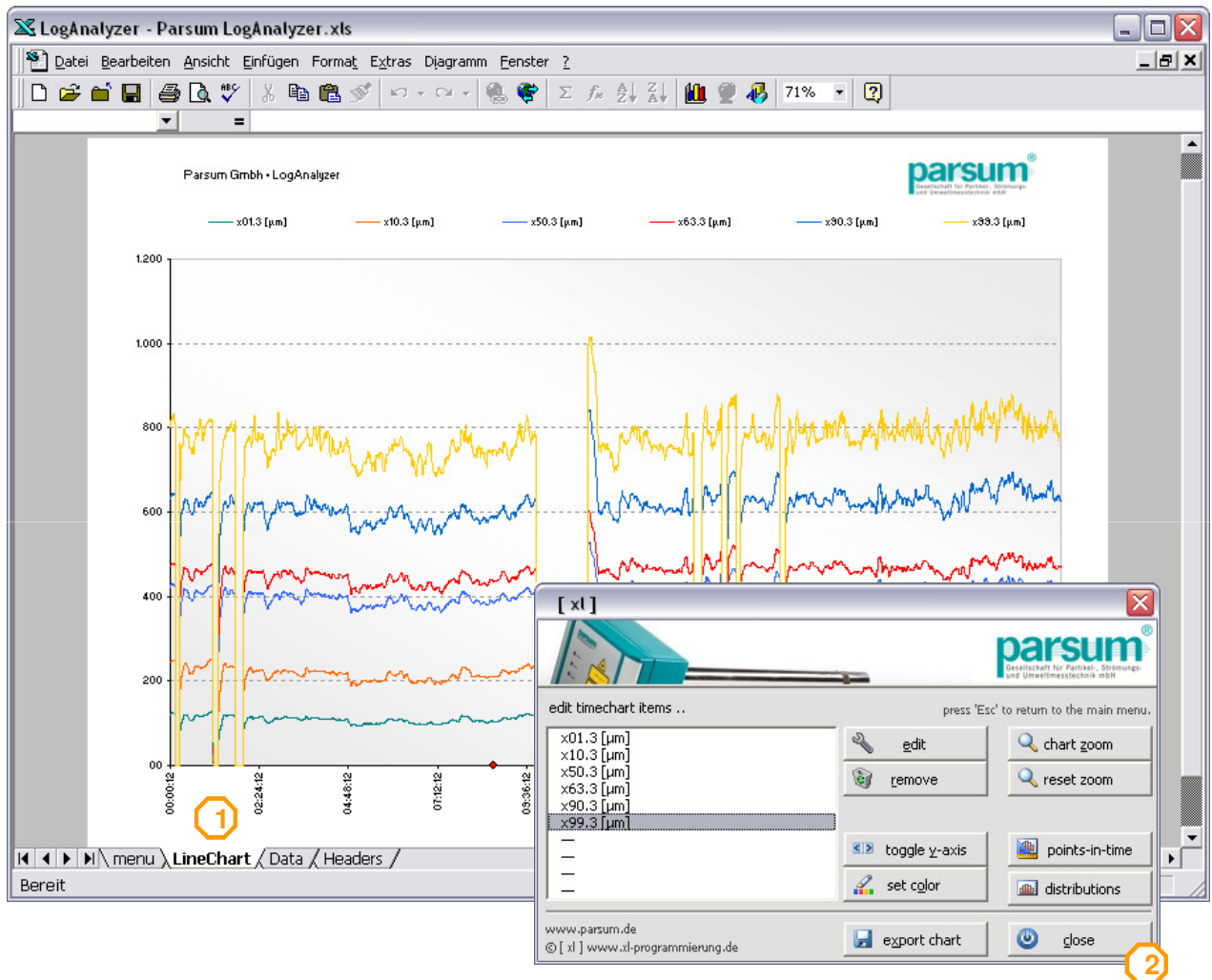


the main line-chart menu is available at any time and from any location within the LogAnalyzer file by pressing [F1] on your keyboard.

(3) edit chart using default lineitems

click on the „edit chart using default lineitems“ icon in order to access the main line-chart menu (2) preloaded with default lineitems.

> [learn more about the \[LineChart \] from page 10 onwards ..](#)



review and edit the main linechart.

(1) linechart - default lineitems

while importing a logfile, the [LineChart] tab will be preloaded with all available „volume distribution“ items listed in the currently loaded logfile.

(2) return to menu

by pressing the „close“ button, the main linechart menu (2) will disappear, the [LineChart] tab will be hidden and you will return to the [menu] tab.

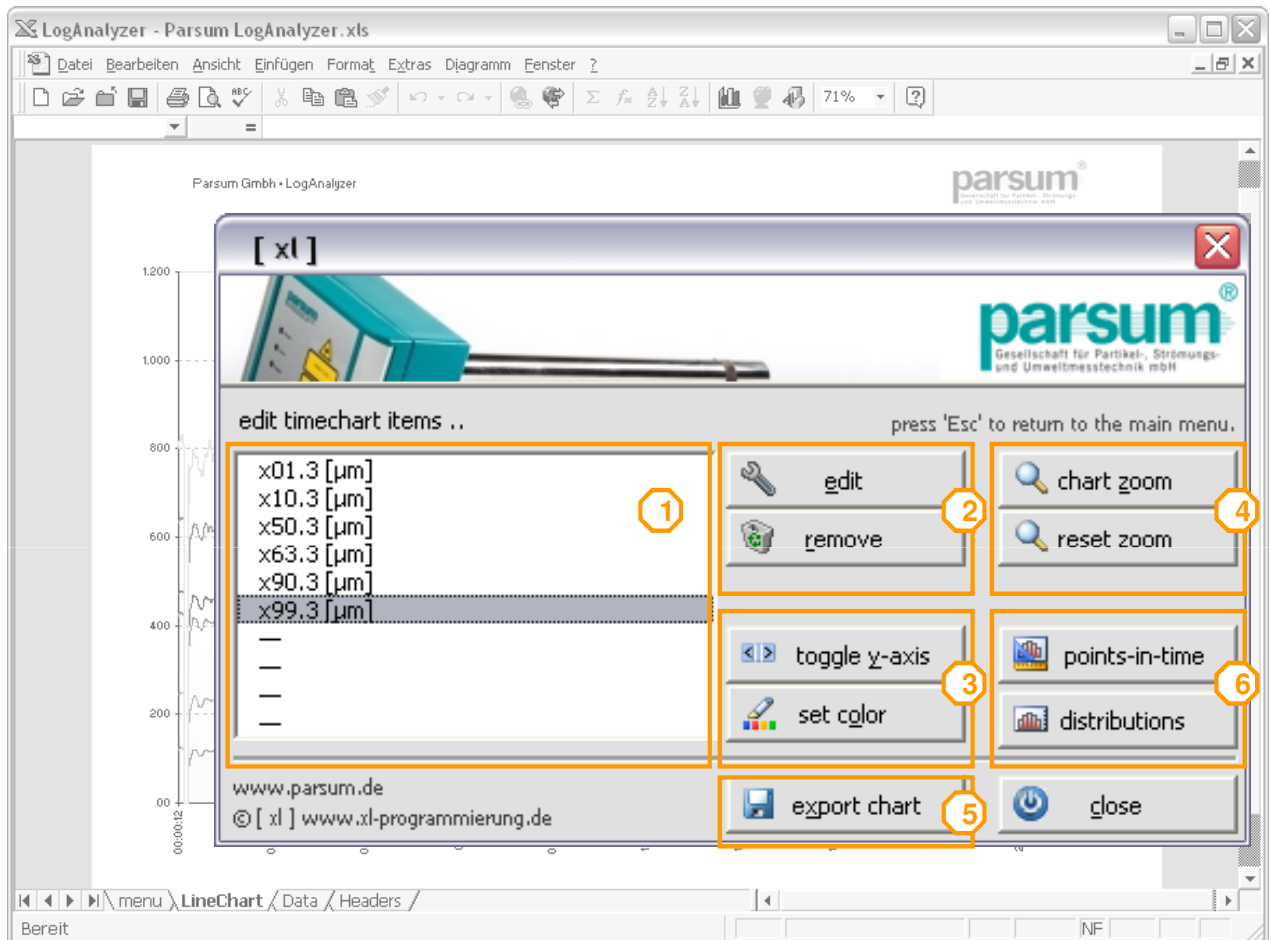
press the ‚Esc‘ button to return to the main linechart menu as well as to return to the LogAnalyzer [menu] tab.



content of the LineChart



the linechart illustrates selected characteristics given by the currently loaded logfile as a time-chart. the x-axis (axis of time) demonstrates the point in time of each data-record - the y-axis demonstrated the individual value of each point in time.



the main linechart item menu.

the main linechart item menu is splitted into the following sections:

(1) linechart item list

the linechart item list shows all currently loaded items displayed in the [LineChart] tab.
the functions „remove“, „toggle y-axis“ & „set color“ require a selected linechart in order to be executed.

(2) edit & remove lineitems

you will be able to add, change, and remove lineitems within the [LineChart].

[> continues on page 12](#)

(3) toggle y-axis & set color

you will be able to toggle a lineitem between the primary and secondary y-axis as well as changing the color of a lineitem within the [LineChart].

[> continues on page 14](#)

(4) zoom & shift inside the timechart

you will be able to zoom in and out as well as shifting the timeperiods within the [LineChart].

[> continues on page 15](#)

(5) export charts

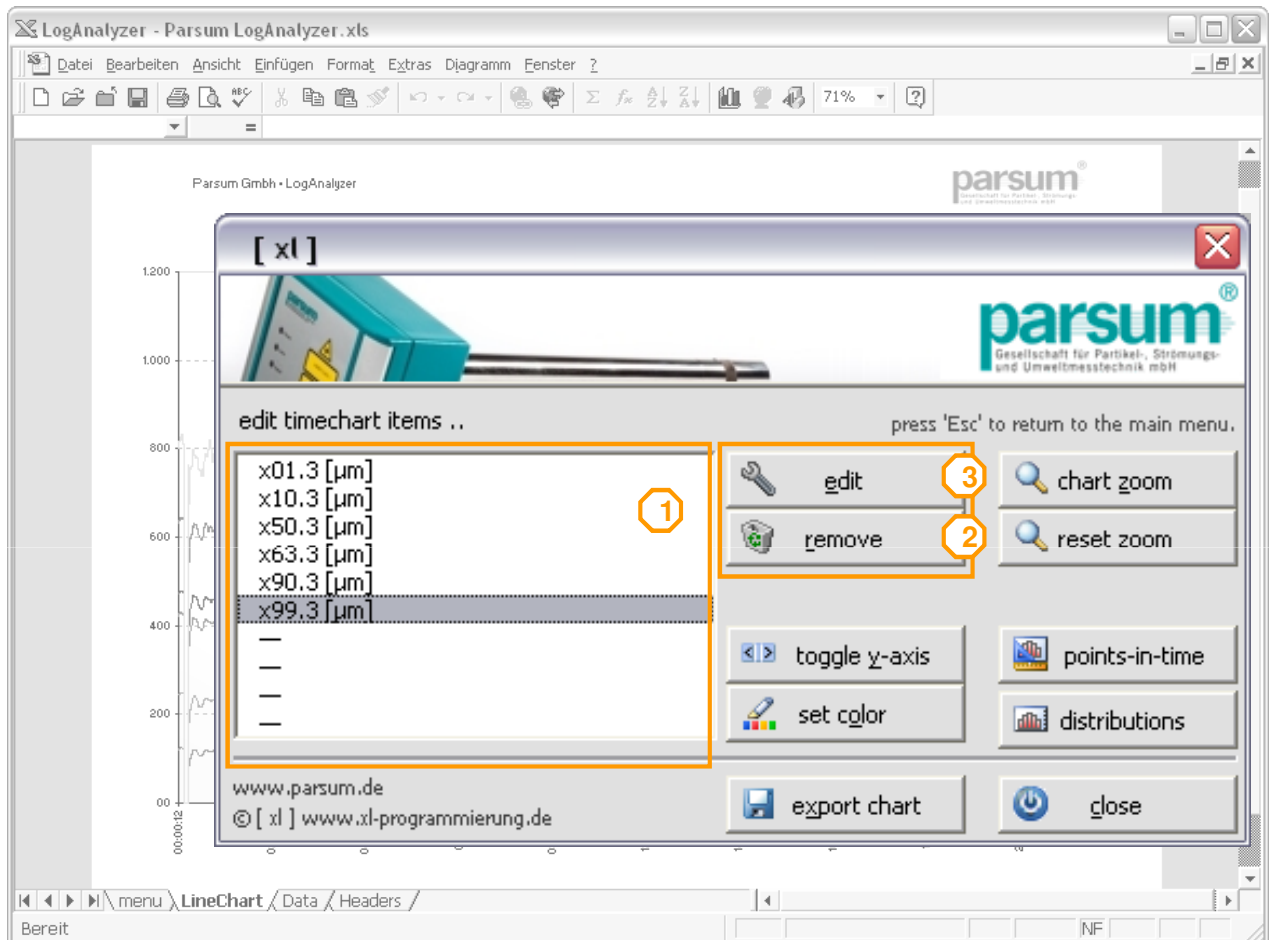
you will be able to create a copy of the currently visible chart in order to save the current view or to make further changes to it.

[> continues on page 16](#)

(6) edit points-in-time & review distribution charts

you will be able to add, change and remove points-in-time as well as review dependent distribution charts illustrating the defined points-in-tiem..

[> continues on page 17](#)



edit & remove lineitems.

(1) remove linechart item

in order to remove a linechart item from the [LineChart] tab, select one of the currently loaded items (1) and press the „remove“ button (2). the selected linechart item will be removed and the [LineChart] will be repainted. you may continue deleting linechart items until a single item remains left.

tip:

you might use the „edit lineitems“ functionality to remove multiple lineitems at once.



please note:

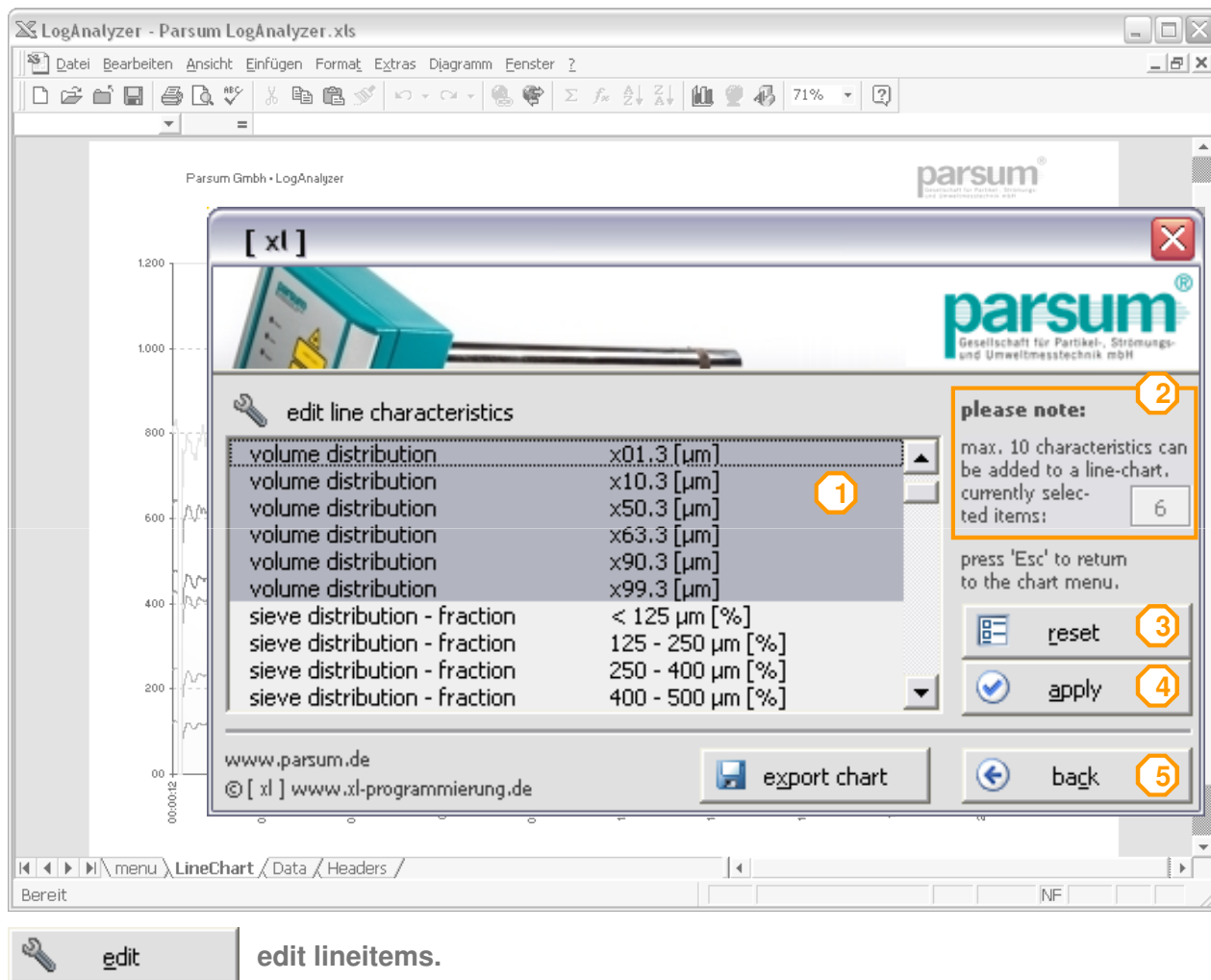
at least one lineitem must remain in the [LineChart]. in order to change the remaining linechart item please continue with the „edit linechart“ procedure.



(2) edit & remove lineitems

by pressing the „edit“ button, you are entering the „edit linechart menu“. you will be able to add, change, and remove lineitems within the [LineChart].

> continues on page 13



by pressing the „edit“ button within the main linechart menu, you are entering the „edit line characteristics“.

(1) select linechart item

in order to edit the [LineChart] lineitems (characteristics) you can choose from any of the available characteristics provided by the currently loaded logfile (1).

simply click on the characteristics to activate or deactivate the desired lineitems - you may also use the „space-bar“ to activate or deactivate a lineitem.

please note:

the number of illustrated lineitems within the [LineChart] is limited to a minimum of 1 and a maximum of 10 characteristics !

the characteristic counter (2) provides you amount of the currently selected items.

(3) reset characteristic selection

by pressing the „reset“ button, the current selection of lineitems will be removed in order to create a new selection of lineitems. a notification will appear to remind you of selecting at least one characteristic in order to apply the changes within the [LineChart].

(4) apply characteristic selection

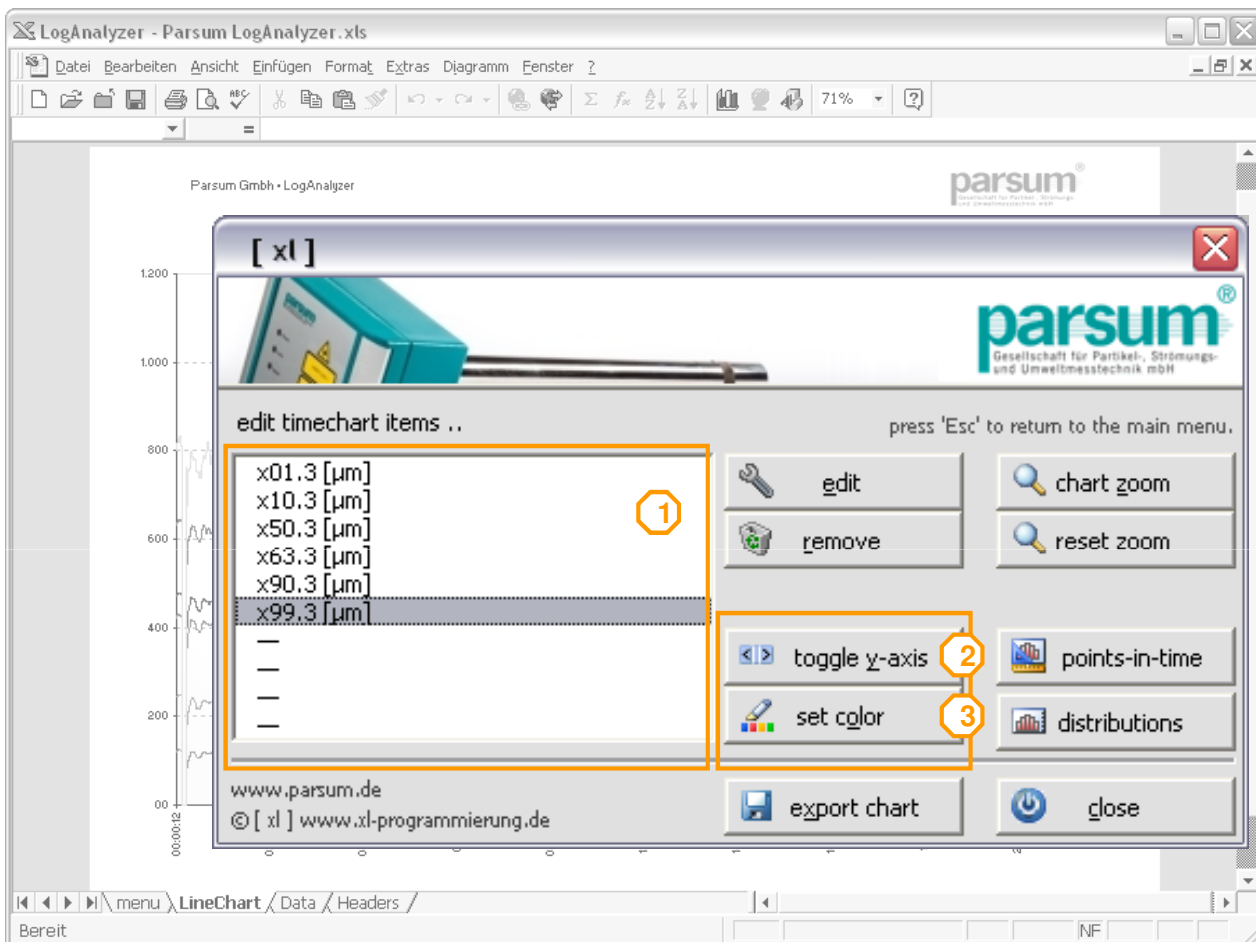
by pressing the „apply“ button, the current selection of lineitems will take effect within the [LineChart] and you will automatically return to the main linechart menu (see page 11).

(5) return to main linechart menu

press the „back“ button or [Esc] to return to the main linechart menu without causing further actions (page 11).

tip:

you might use the „edit lineitems“ functionality to remove multiple lineitems at once.



toggle y-axis & set lineitem color.

the main linechart item menu is splitted into the following sections:

(1) select a lineitem

select one of the listed lineitems in order to use the „toggle y-axis“ or „set color“ function.

(2) toggle y-axis

click on „toggle y-axis“ to change the assignment of the currently selected lineitem **(1)** between the primary and secondary y-axis within the [LineChart].

(3) set lineitem color

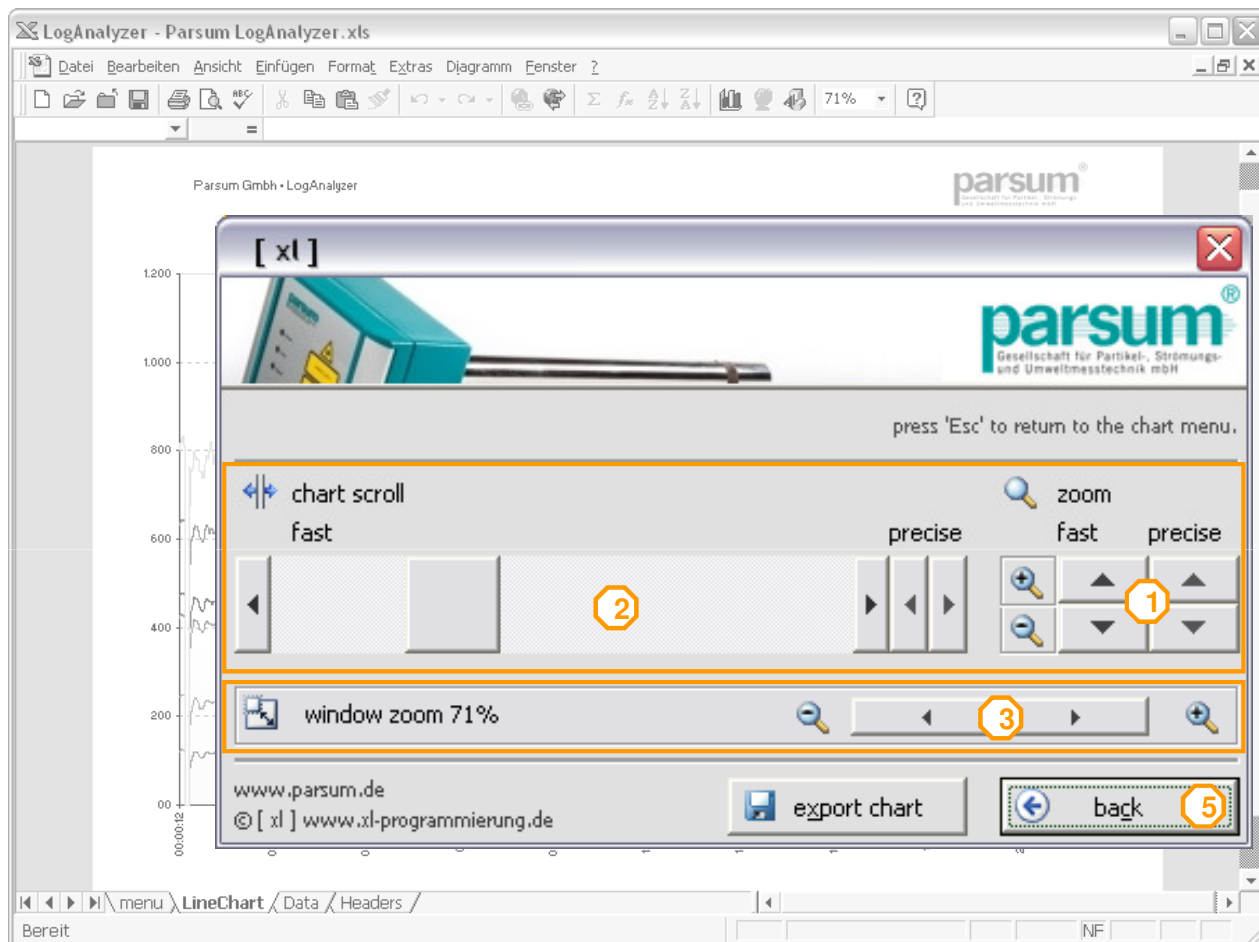
press the „set color“ button in order to change the color of the currently selected lineitem **(1)**. the „color adjustment“ menu **(4)** appears. you will find the selected lineitem listed on top of the color selection **(5)**. click on the desired color and the lineitem will be adjusted accordingly.

(6) return to main linechart menu

press the „back“ button or [Esc] to return to the main linechart menu without causing further actions.



LineChart: chart zoom



zoom and shift inside the timechart.

by pressing the „chart zoom“ button within the main linechart menu, you are entering the „zoom menu“.

the main linechart item menu is splitted into the following sections:

(1) zoom inside the timechart

you have two options to zoom in and out the [LineChart] - „fast“ and „precise“.

the „fast zoom“ will increase (upwards) or decrease (downwards) the zoom factor of the linecharts x-axis in large steps. the „precise zoom“ will change the x-axis zoom in small iterations.

(2) timechart scroll

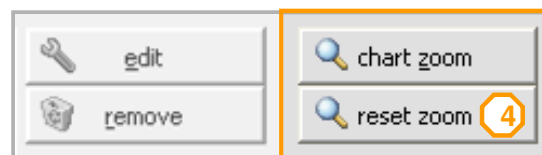
once you enlarged the zoom factor, you will be able to use the „chart scroll“ slider (2). similar to the zoom buttons you have the options of using a „fast“ and „precise“ chart scroll.

(3) window zoom

changing the „window zoom“ affects the entire chart window. per default, all charts will be scaled to an optimum size to fit your screen.

(4) reset zoom

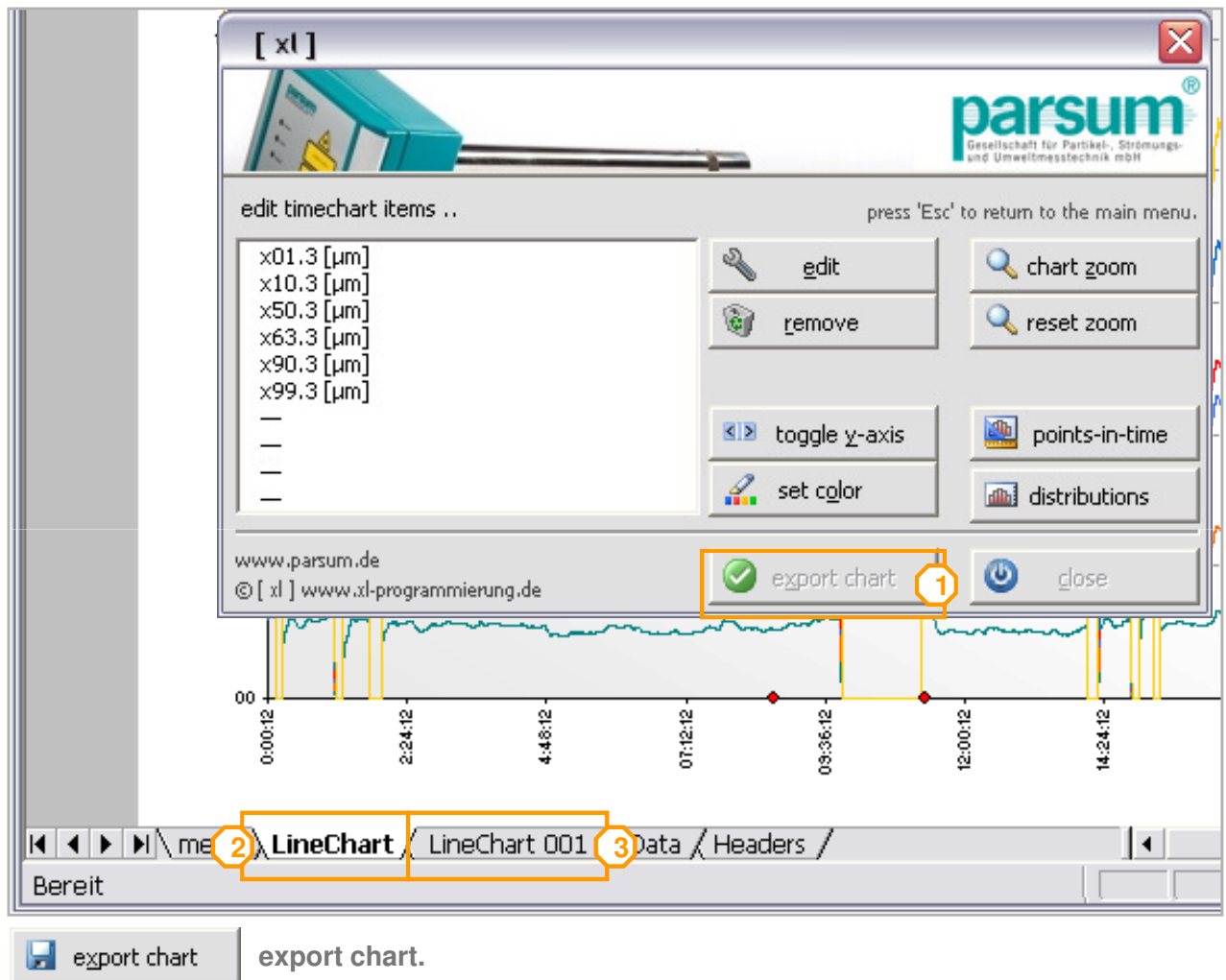
you will find the „reset zoom“ button within the main linechart menu. by pressing „reset zoom“ button, the zoom factor (x-axis) will be zoomed out to display the entire range of the currently loaded logfile and the window zoom will be rescaled to the optimum.



(5) return to main linechart menu

press the „back“ button or [Esc] to return to the main linechart menu without causing further actions (page 11).

export chart

**(1) export chart**

press the „export chart“ button (1) to create a copy of the currently activated chart (2), e.g. „LineChart“. an incremental identifier will be added to the new chart name and the chart will be unprotected (3). you may continue exporting charts or exit the form in order to make changes to the newly created chart, e.g. „LineChart 001“.

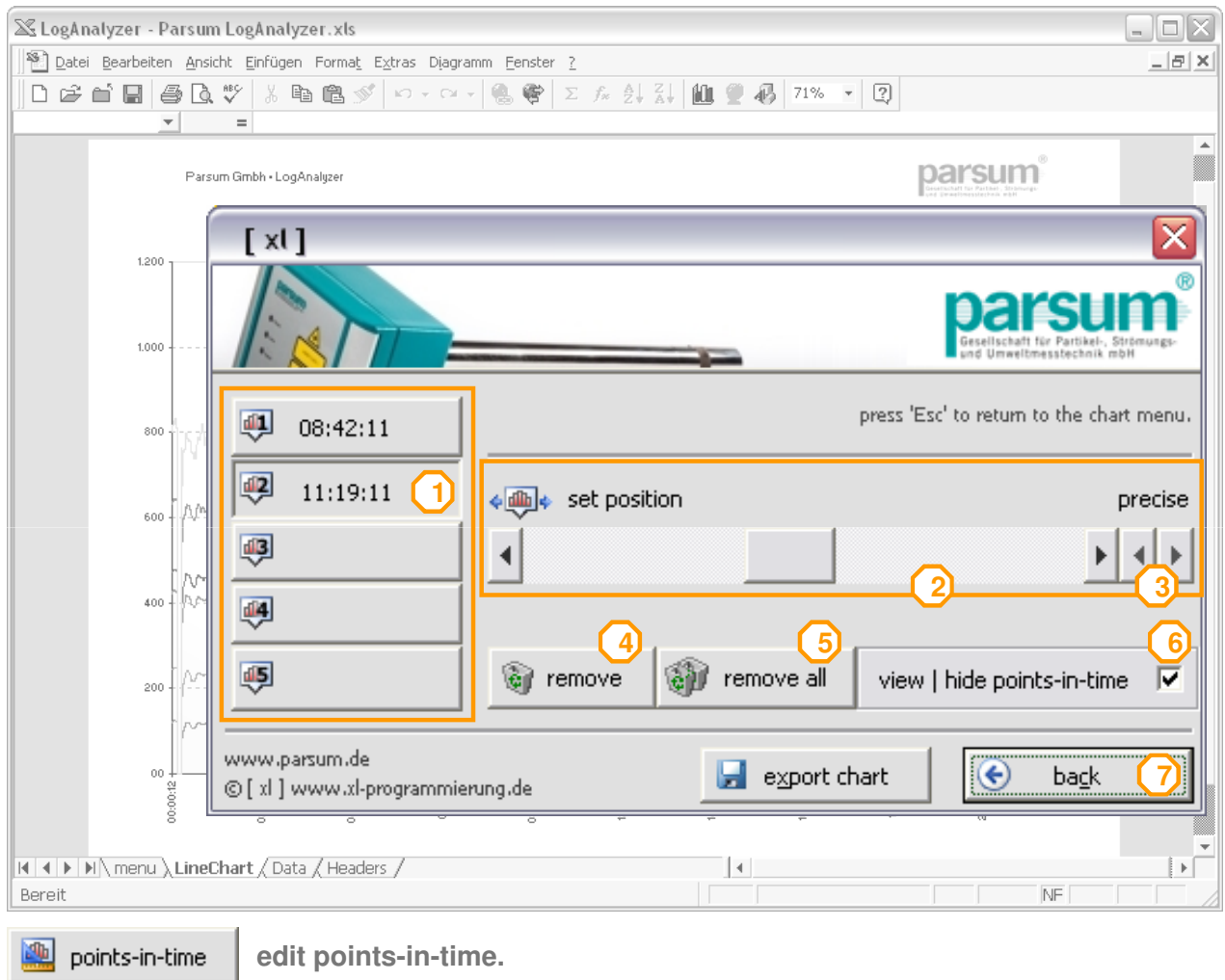
please note:

all exported charts within the LogAnalyzer file are constantly linked to the [Data] tab as their common source.

editing the [Data] source (e.g. „custom values“) as well as editing „points-in-time“ will affect all charts within the LogAnalyzer file illustrating the edited items !

purpose

while the [LineChart] is used to explore and illustrate the currently loaded logfile it is protected against changes to assure the chart functionalities. the „export chart“ function creates a copy of any active chart by adding an incremental identifier and unprotected the chart (e.g. export „Linechart“ into „LineChart 001“). this newly created chart will remain active even after returning to the LogAnalyzer's [menu] tab. you can make further changes to the chart as needed; amend its content, copy into powerpoint etc.



by pressing the „points-in-time“ button within the main linechart menu, you are entering the „points-in-time menu“.

(1) set a point-in-time

select one of the five „point-in-time“ buttons you want to set or adjust (1).
in order to set the time, you have two options: a „fast“ and „precise“ time setting.
use the time slider (2) to adjust the point-in-time in larger steps; the precise button (3) iterates the point-in-time by single steps (defined by the currently loaded logfile; record by record).

(4) remove a point-in-time

select one of the five „points-in-time“ you want to remove (1) and press the „remove“ button (4).

(5) remove all points-in-time

press the „remove all“ button in order to remove all points-in-time at once.

(6) view | hide points-in-time

you have the option to view or hide the currently selected points-in-time within the [TimeChart] by alternating the „view | hide points-in-time“ button (7).
while working in this menu, the activated „points-in-time“ will be shown as red spots at the x-axis topped by a horizontal dotted line for precise positioning. when leaving this menu, the horizontal line will be hidden.

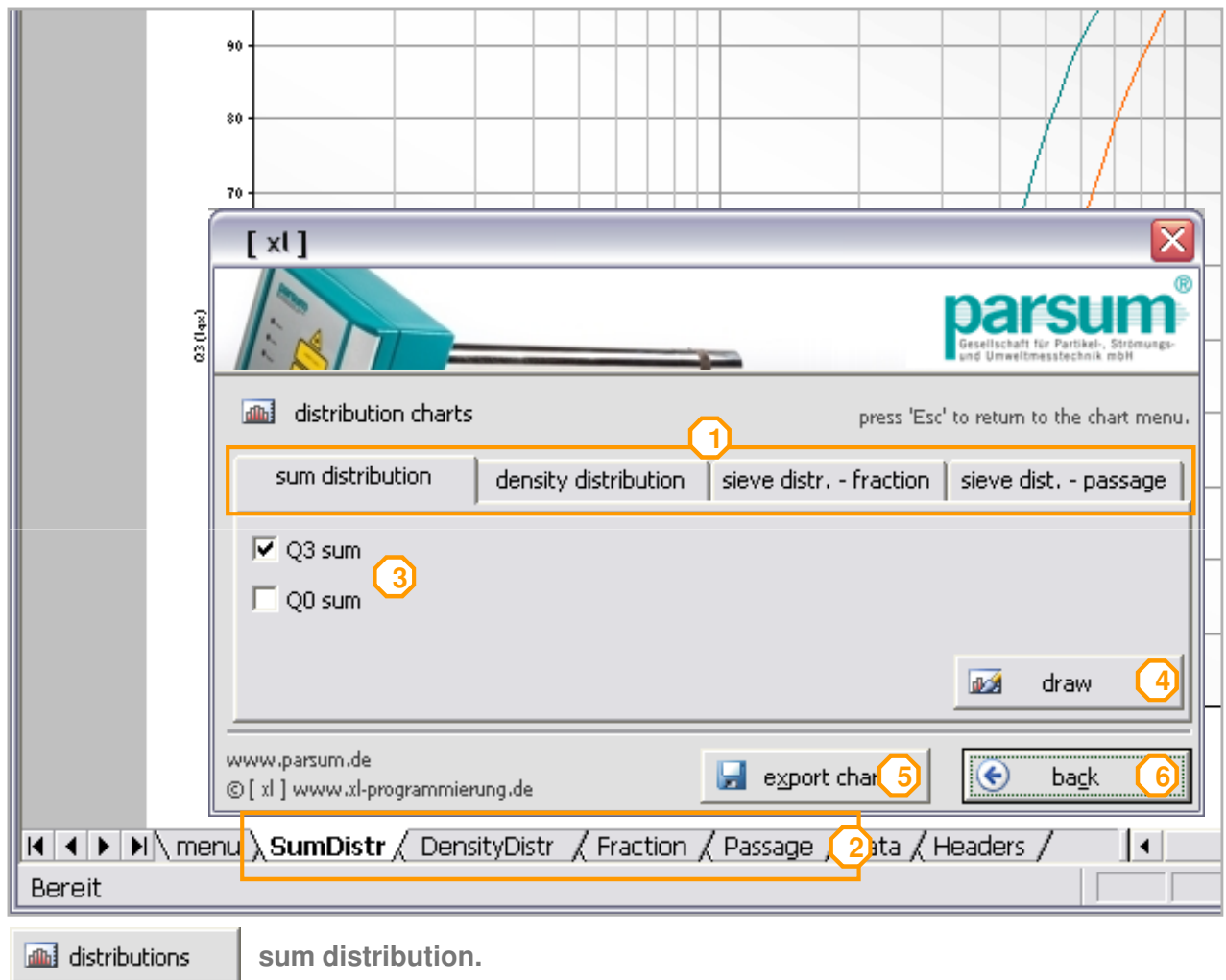
(7) return to main linechart menu

press the „back“ button or [Esc] to return to the main linechart menu without causing further actions (page 11).

purpose of points-in-time



while the [LineChart] illustrates values over time, another major view of analyzing the logfiles is to review „distribution charts“. these charts are illustrating selected values (usually distributions) at distinct points in time. within the LogAnalyzer, you can select and review up to 5 points in time.



by pressing the „distributions“ button within the main linechart menu, you are entering the „distribution charts menu“. you will find four distrubution charts accessible through the chart tabs on top of the menu (1).

by navigating through the tabs (1), the corresponding chart will be activated (4).

the distribution chart illustrates all currently defined points-in-time.

[> learn more about setting points-in-time on page 17.](#)

(3) chart selection

per default, the „Q3 summary distribution“ will be illustrated when entering the chart at first.

you can select between the „Q3“ and/or the „Q0“ summary distribution (3).

press the „draw“ button (4) to reflect your selection in the current chart.

(5) export chart

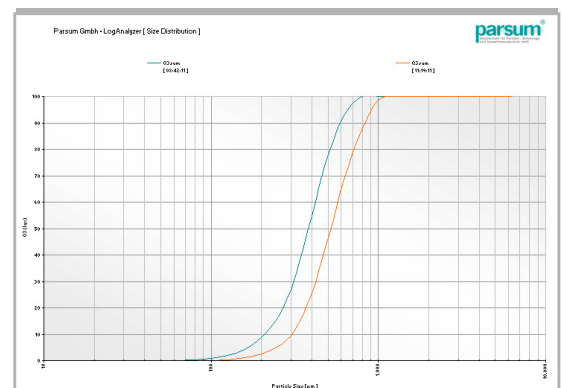
press the „export chart“ button (5) to create a copy of the currently activated chart within the LogAnalyzer.

[> learn more about „export charts“ on page 16.](#)

(6) return to main linechart menu

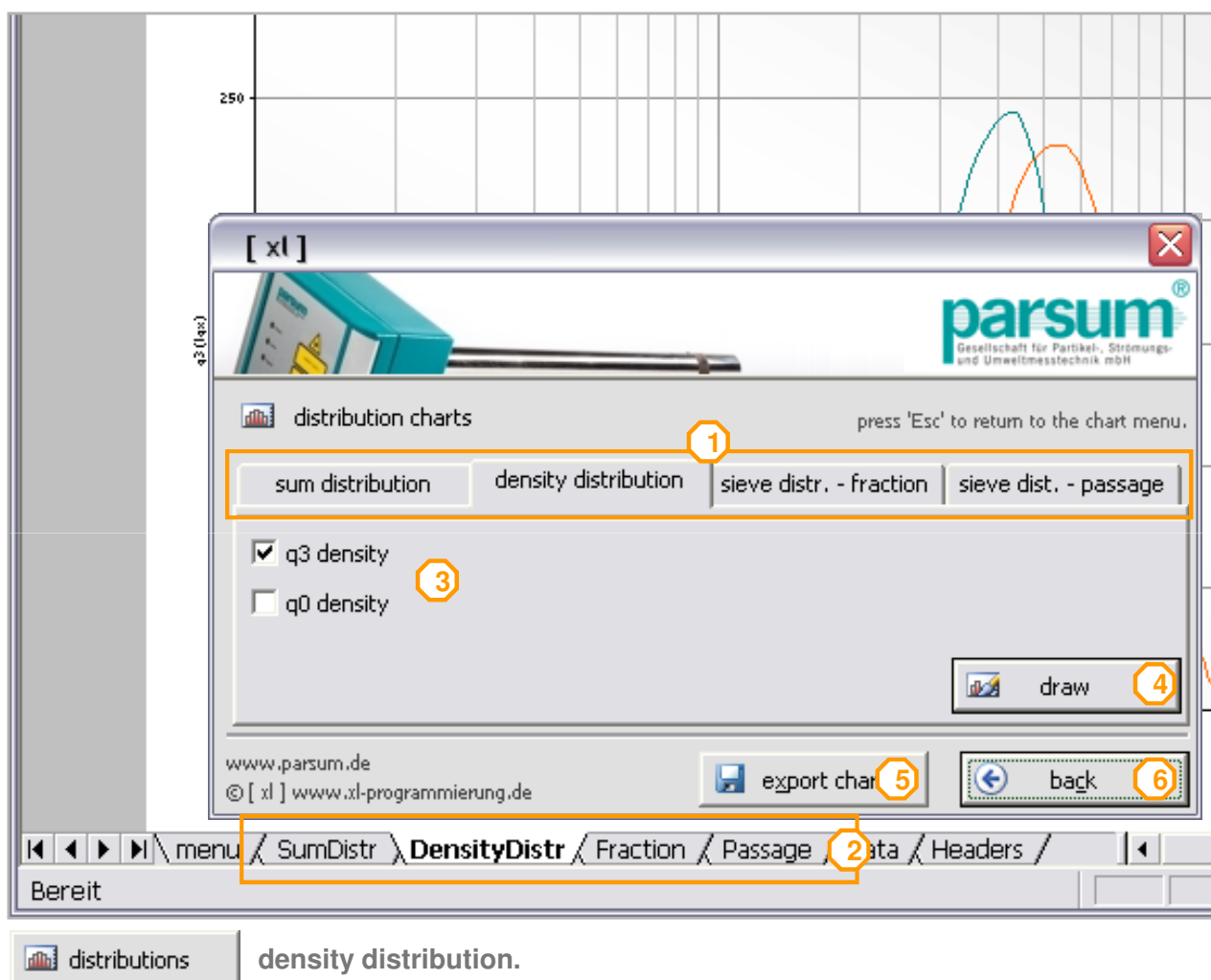
press the „back“ button or [Esc] to return to the main linechart menu without causing further actions (page 11).

exemplar.



logarithmic illustration of the volume sum distribution for the particle size with constant class width in μm .

density distribution



by pressing the „distributions“ button within the main linechart menu, you are entering the „distribution charts menu“. you will find four distrubution charts accessible through the chart tabs on top of the menu (1).

by navigating through the tabs (1), the corresponding chart will be activated (4).

the distribution chart illustrates all currently defined points-in-time.

[> learn more about setting points-in-time on page 17.](#)

(3) chart selection

per default, the „q3 density distribution“ will be illustrated when entering the chart at first.

you can select between the „q3“ and/or the „q0“ density distribution (3).

press the „draw“ button (4) to reflect your selection in the current chart.

(5) export chart

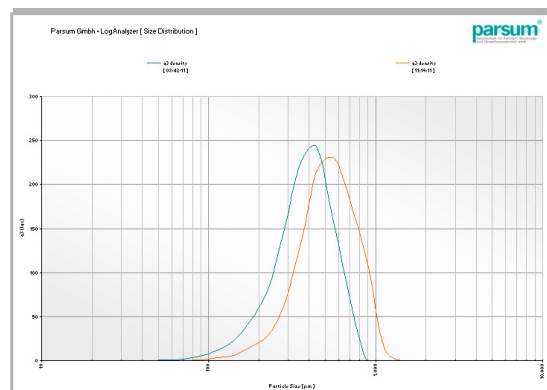
press the „export chart“ button (5) to create a copy of the currently activated chart within the LogAnalyzer.

[> learn more about „export charts“ on page 16.](#)

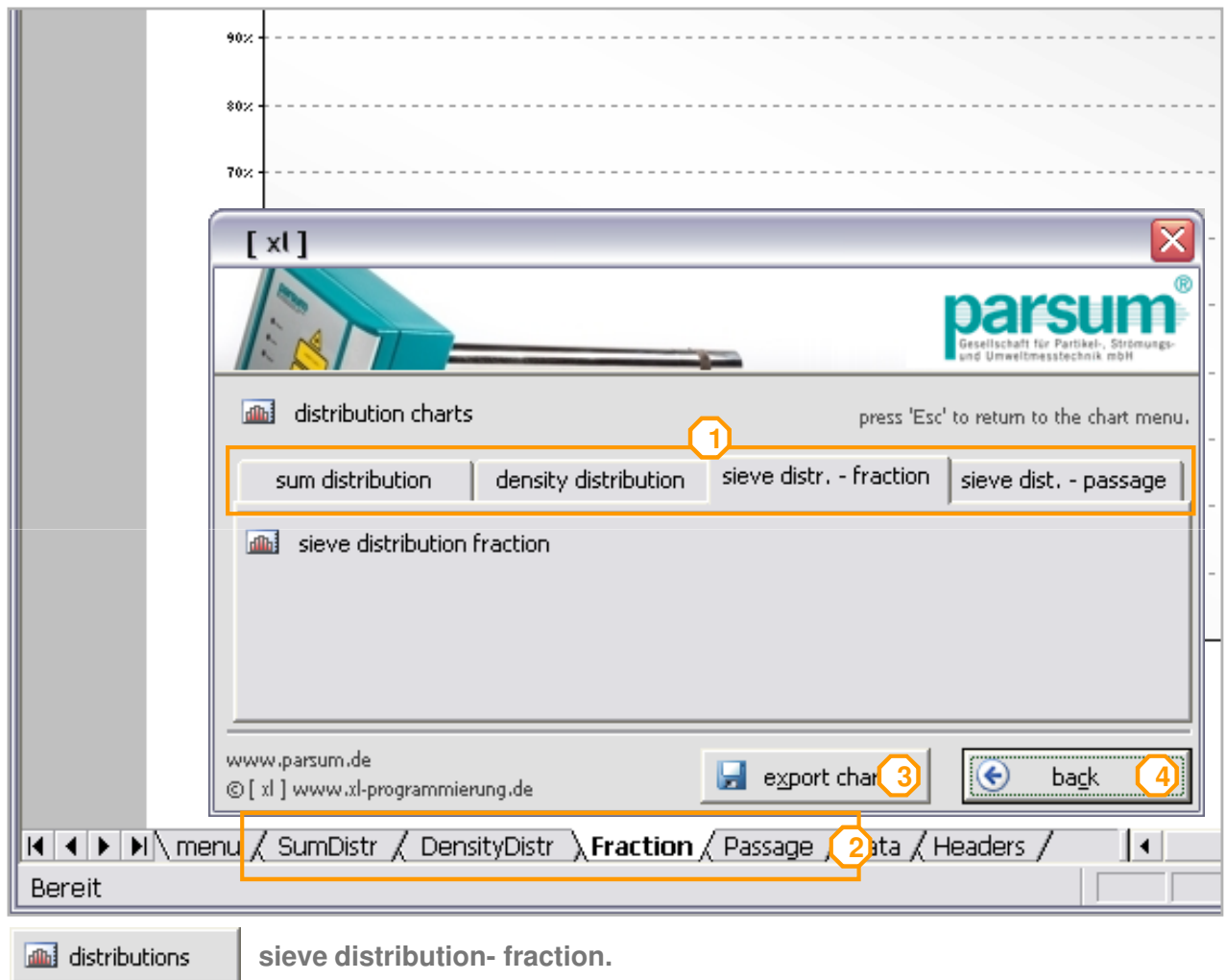
(6) return to main linechart menu

press the „back“ button or [Esc] to return to the main linechart menu without causing further actions (page 11).

exemplar.



logarithmic illustration of the volume density distribution for the particle size with constant class width in μm .



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[> learn more about setting points-in-time on page 17.](#)

(3) export chart

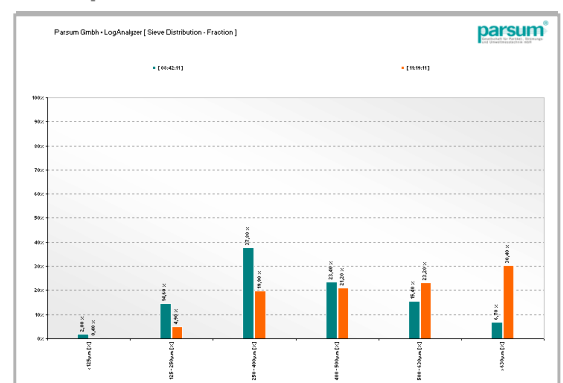
press the „export chart“ button (3) to create a copy of the currently activated chart within the LogAnalyzer.

[> learn more about „export charts“ on page 16.](#)

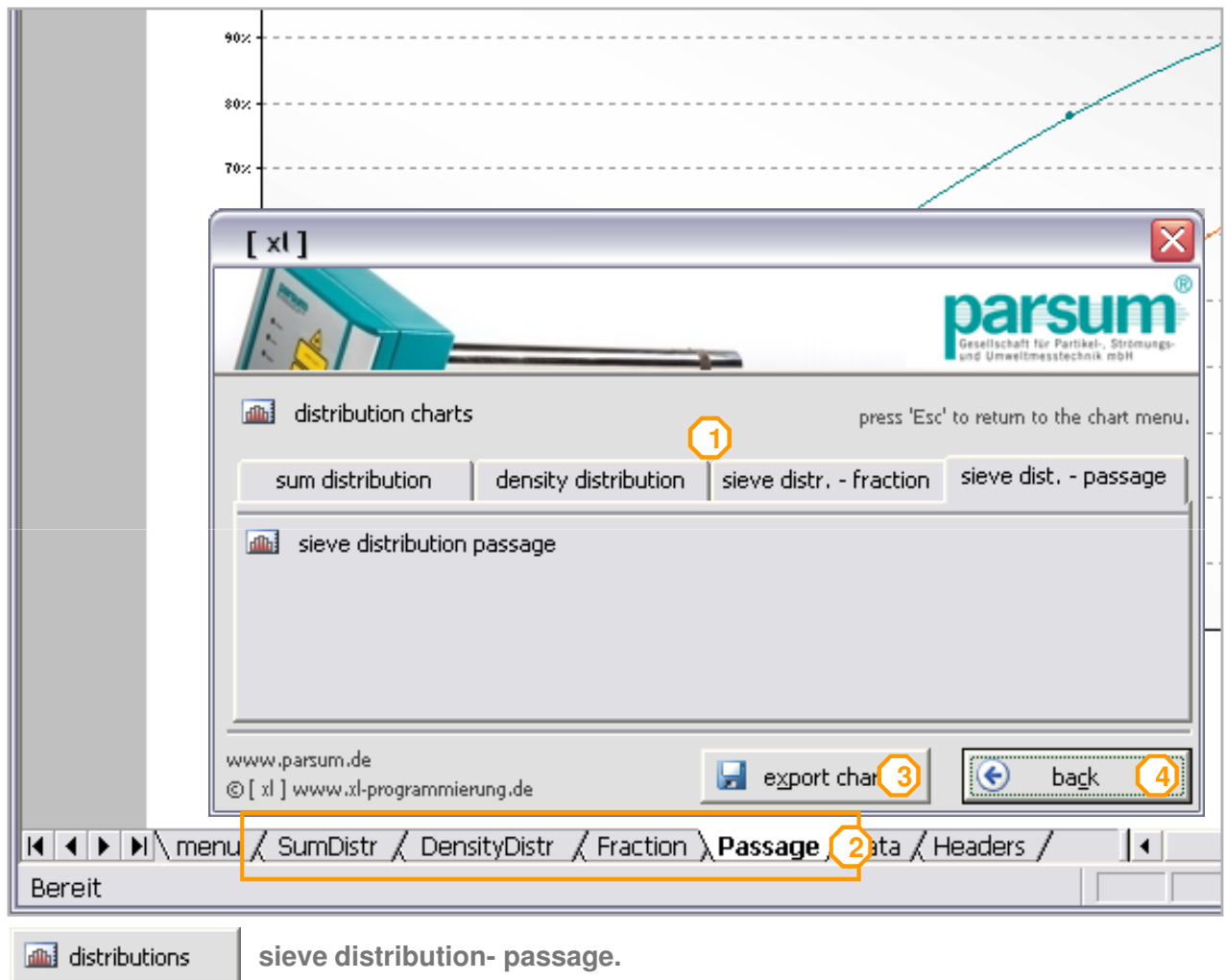
(4) return to main linechart menu

press the „back“ button or [Esc] to return to the main linechart menu without causing further actions (page 11).

exemplar.



illustrates the fractions of the set sieve series as a histogram.



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> [learn more about setting points-in-time on page 17.](#)

(3) export chart

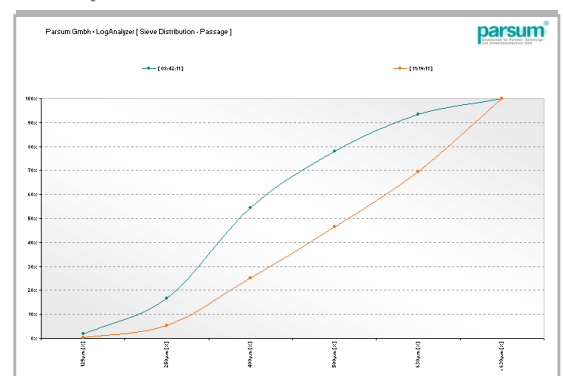
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> [learn more about „export charts“ on page 16.](#)

(4) return to main linechart menu

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exemplar.



illustrates the passage of the set sieve series.