

# R-Lab

Balance and Scale Software

User manual

ITKU-93-01-10-16-EN



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## 1. INTENDED USE

**R-Lab** is an up-to-date program offering acquisition of measurements sent from **RADWAG**-manufactured balances, their presentation and statistical analysis. The program allows reports and graphs generating and customization.

### **Caution:**

1. *Due to the updating of the software, there is a slight possibility of discrepancy between the contents of this user manual, and its actual form,*
2. **RADWAG** does not bear responsibility for:
  - a. *potential errors being a result of inappropriate use,*
  - b. *data safety and potential loss of data caused by the inappropriate use of either software or computer, or*
  - c. *lack of backup copy.*
3. *Mind that in case of loss of purchased medium, **RADWAG** will not provide you with archive software versions. You will be required to use the latest **E2R SYSTEM** update.*

## 2. SOFTWARE INSTALLATION

- *Prior installation it is necessary to close all applications on your computer.*

### 2.1. System requirements:

#### **Minimum requirements:**

- Processor: 1 GHz,
- RAM: 512 MB,
- SVGA graphics card (min. resolution 1024x768 for 24-bit colour,
- 1 GB of free hard disc space,
- Operating system Windows XP/2000/Vista/7/8/10,
- Program supporting PDF files – display of the manual.

#### **Advanced requirements:**

- RS -232 port
- Printer (format A4) – for printout of reports.

## 2.2. Installation Procedure

In order to install **R-Lab** program run installation file and follow the displayed guides.

## 2.3. Licence

Upon **R-Lab** installation licence for demo software version gets activated. In order to connect more than one balance and carry out countless numbers of measurements you have to use full software version. To upgrade software version from demo to full go to **Settings** tab and enter the key you were provided with.



## 3. MAIN WINDOW

Upon program start the main window is displayed.

**The main window is divided into 3 sections:**

- **Top bar** – menu bar and toolbar;
- **Bottom bar** – status bar;
- **Workpane.**

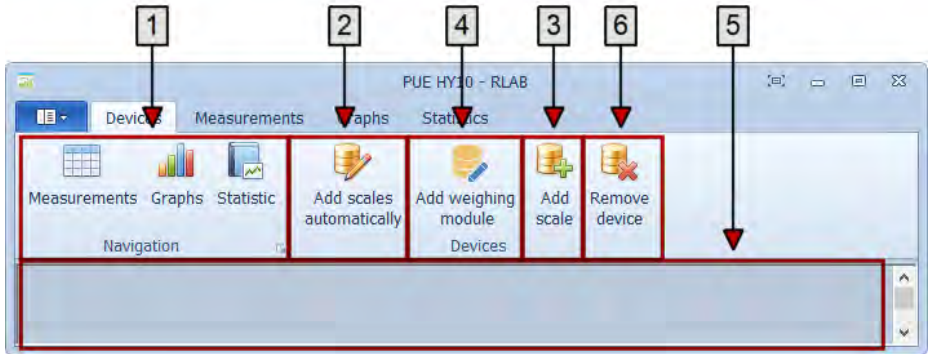
Top bar features tabs assigned with respective functions. On the left of each tab there is **Navigation** section with shortcut buttons directing you to other tabs.

Workpane displays weighing device windows and active tab data and information.

Bottom bar provides licence info and displays measurement filters.

### 3.1. Devices Tab

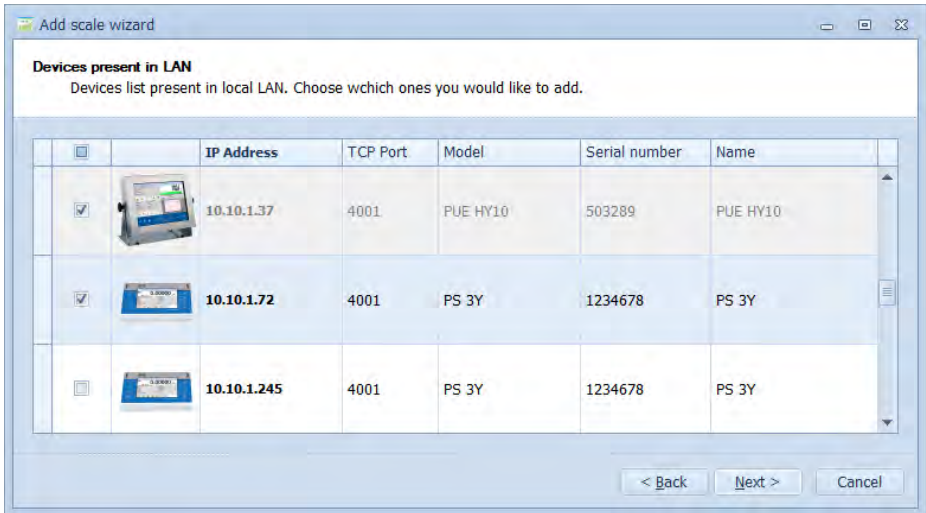
Using **Devices** tab buttons you can establish connection between the devices and the program. **Devices** tab workpane features weighing devices windows. The windows enable operation of balances/scales, their settings modification and control of measurements performed by them.



#### Buttons and options:

1. Navigation - shortcut buttons directing you to other tabs;
2. Detection of all network connected balances and scales and establishing connection with chosen selected devices. **Caution!** It is not possible to establish connection with a weighing module automatically, connection can be established automatically only with scales or balances;
3. Entering data manually in order to establish connection with a balance/scale;
4. Entering data manually in order to establish connection with a weighing module;
5. Workpane comprising weighing device windows;
6. Disconnecting currently selected device (the device name is displayed on a title bar of the main window).

### 3.1.1. Adding the Device - Automatic Operation



Upon pressing **Add scale automatically** button, all network operating balances and scales are detected. You can select devices that are to be connected with the program.

#### Process overview:

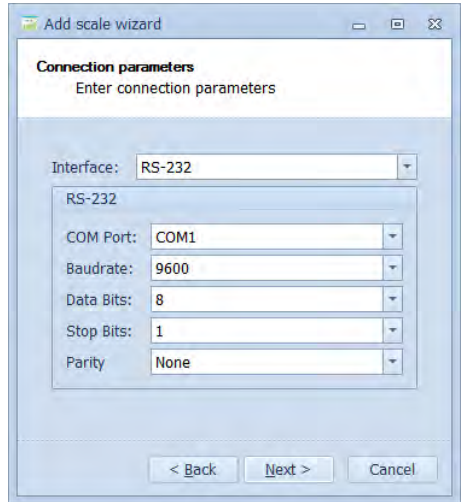
1. Press **Add scale automatically** button, list of all detected scales is displayed;
2. Tick box on the left of a given device, next press  button;
3. Window with list of selected devices is displayed. Press **Add** button for confirmation. Connection is established. Separate window for each device is displayed. **Caution!** Program restart may be required.

### 3.1.2. Adding the Device - Manual Operation

Press **Add device** button, next enter respective connection parameters. You can use this option instead of auto detection.

#### Process overview:

1. Select connection method: Ethernet/Wi-Fi or RS-232 interface;
2. Enter respective parameters and press **Next >** button for confirmation;
3. Prior confirmation you can edit the displayed device name;
4. Window with list of selected devices is displayed. Press **Add** button for confirmation. Connection is established. Separate windows for each device is displayed. **Caution!** Program restart may be required.



### 3.1.3. Deleting Devices

Upon pressing "Remove device" button the selected device can be disconnected, the window assigned to a disconnected device is closed.

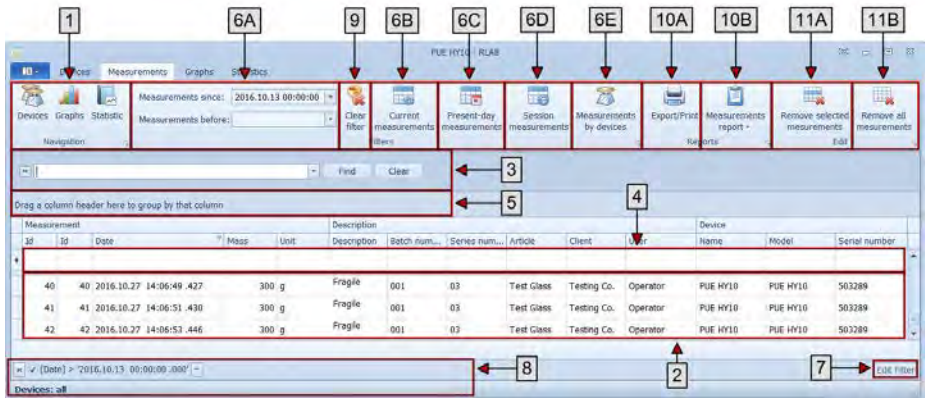
#### Process overview:

1. Make sure that window of a device that you want to delete is active. Active device name is displayed on a title bar of the main window;
2. Click **Remove device** button, a respective message is displayed, confirm the message, the device gets disconnected.



## 3.2. Measurements Tab

Measurements tab enables preview of all recorded measurements carried out using balances/scales connected with the program. Use of filters allows customization of results display.



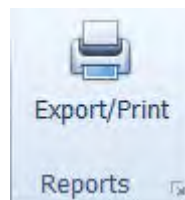
### Buttons and options:

1. Navigation - shortcut buttons directing you to other tabs;
2. Workpane displaying carried out measurements (filter referred to).
3. Searching measurements table for results containing particular string of characters;
4. Searching particular table columns;
5. Grouping the results by selected columns;
6. Basic filtering options:
  - a. By time interval;
  - b. Current measurements – select this filter to hide measurements carried out prior previous button pressing;
  - c. Present-day measurements – select this filter to hide measurements assigned with date other than present-day date;
  - d. Session measurements – select this filter to hide measurements carried out prior program start;
  - e. Measurements by devices - select this filter to display list of devices, next select device/devices to display measurements carried out using it/them;
7. **Filter Editor** opened upon pressing **Edit Filter** button, enables you to apply advanced filters onto the measurements;
8. Current filters preview;
9. Disabling used filtering;
10. Reports display;

- a. Display of workpane table (applied filter referred to) in a form of printable file;
  - b. Preparing report presenting workpane table data (all active filters referred to) which can be either printed or saved to file;
11. Permanent deletion of the results. **Caution! Results once deleted cannot be restored.** Ensure that the data is no longer needed or make a backup copy;
- a. Deleting selected measurements;
  - b. Deleting all measurements.

### 3.2.1. Report preview

Report preview window is opened using **Reports** section buttons, 'Reports' section is located on the following tabs: **Measurements, Graphs** and **Statistics**. The window allows you to preview content of a report generated on the basis of tab-displayed data. Using the window you can also carry out other report-related operations.



The screenshot shows a report preview window with a toolbar containing the following buttons and options:

- 1. Print icon
- 2. Print settings (Print, Scale, Margins, Orientation, Size)
- 3. Page Setup icon
- 4. Navigation (Find, Thumbnails, Bookmarks, Previous Page, Next Page, First Page, Last Page)
- 5. Zoom (Many Pages, Zoom in, Zoom out)
- 6. Page Background (Page Background, Watermark)
- 7. Export icon

		Measurement			Description		Device				
	Id	Date	Mass	Unit	scrip	nus	nurtic	ClientUs	exam	modal	nus
1	1	2016.10.25 08:17:30	.394	282 g					PU	PU	503
2	2	2016.10.25 08:17:48	.751	255 g					PU	PU	503
3	3	2016.10.25 08:17:52	.775	264 g					PU	PU	503
4	4	2016.10.25 08:17:57	.614	272 g					PU	PU	503
5	5	2016.10.25 08:21:13	.723	245 g					PU	PU	503
6	6	2016.10.25 08:21:18	.976	236 g					PU	PU	503
7	7	2016.10.25 08:21:42	.056	277 g					PU	PU	503

Page 1 of 2 | 100%

#### Buttons and options:

1. Reports record and opening;
2. Printout settings and printing;
3. Report page settings;
4. Navigation through report pages and text search tool;
5. Preview zoom;
6. Report background change and adding watermark;

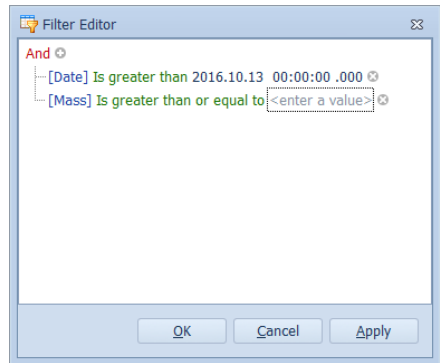
- Report export – saving report to file (any selected file format) and option of sending it via e-mail.

### 3.2.2. Filter Editor

Filter Editor allows you to edit advanced filters, which next are applied onto measurements presented in the following tabs: Measurements, Graphs, Statistics.

There are two methods for running Filter Editor window:

- by pressing **Edit Filter** button which turns up in a bottom left hand corner upon setting filter
- by placing mouse cursor over selected column header and clicking right mouse button.



### 3.3. Graphs Tab

Graphs generated automatically on the basis of carried out measurements.

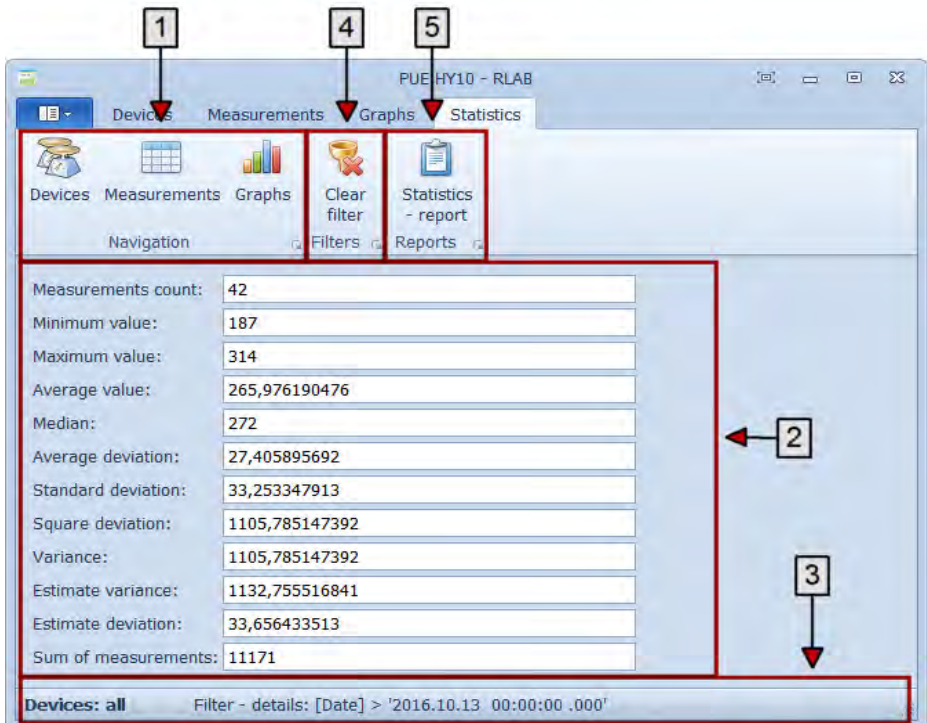


### Buttons and options:

1. Navigation - shortcut buttons directing you to other tabs;
2. Various graph types:
  - a. Graph of measurements with statistics values presented;
  - b. Gaussian distribution graph;
  - c. Graph presenting difference between successive measurements;
  - d. All-in-one graph;
3. Workpane displaying currently selected graph with an applied filter;
4. Information on the applied filter;
5. Clear filter option;
6. Graph key and choice of indications for the displayed graph;
7. Preparing graph which can be either printed or saved to file.

### 3.4. Statistics Tab


When statistics tab workpane is active then the workpane presents statistics based on displayed measurement results.

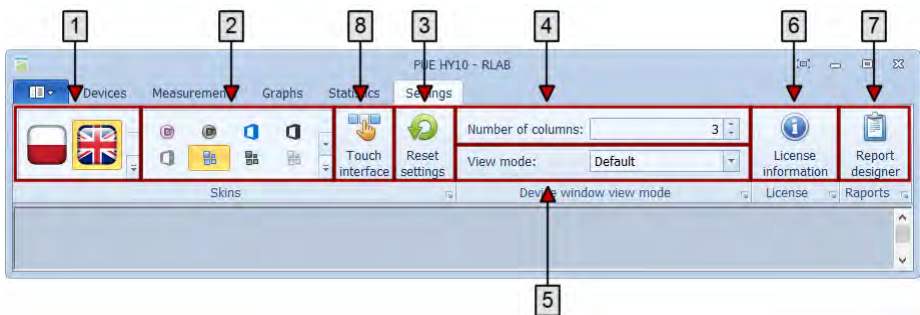


### Buttons and options:

1. Navigation - shortcut buttons directing you to other tabs;
2. Workpane presenting statistics based on displayed measurement results (filter referred to);
3. Information on the active filter;
4. Clear filter option;
5. Preparing statistics report on the basis of displayed results (filter referred to);

### 3.5. Settings Tab

Settings tab enables both modification of program settings and restoring of default settings. To run **Settings** tab go to drop down menu accessible upon clicking  button located on the left of **Devices** tab.



### Buttons and options:

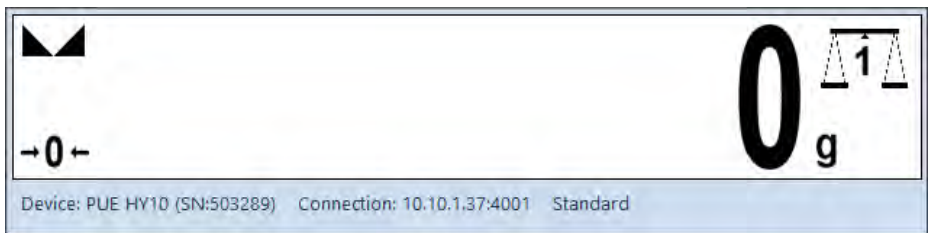
1. User language;
2. Program skin;
3. Touch interface mode;
4. Columns quantity to which weighing device windows width is adjusted within workpane of the main window;
5. Switching between standard and simplified weighing device window view;
6. Information on current licence and upgrade options;
7. Reports editor enabling modification of present report templates and creation of new ones;
8. Restoring default program settings.

## 4. Weighing device window

Weighing device windows are assigned to particular balances/scales connected with the program. They are displayed in a workpane upon selecting **Devices** tab. Operating the window you can operate the balance/scale, change settings and display measurements, graphs and statistics.

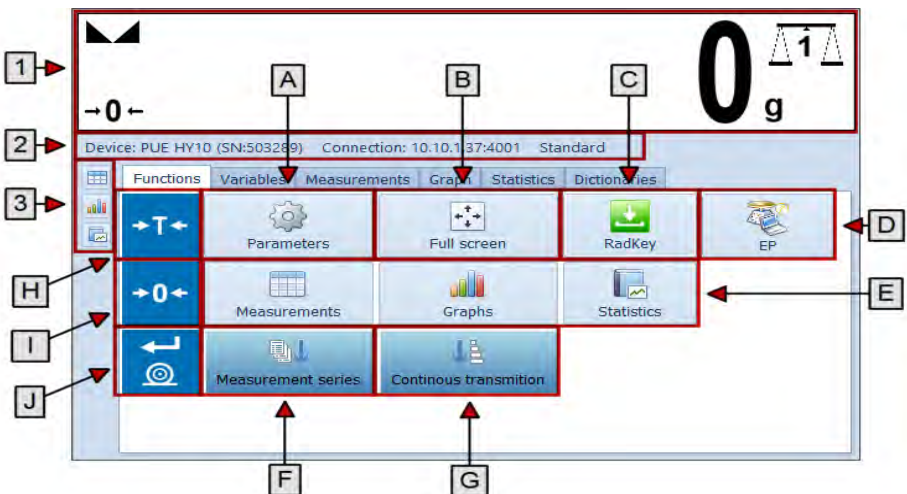
When displaying more than one weighing device window, their location and order may be freely changed by clicking and holding them, next dragging to a selected spot.

### Simplified view:



Additional, simplified view of weighing device windows is activated in **Settings** tab. For this view, balance/scale screen is displayed along with balance/scale name, serial number and connection status.

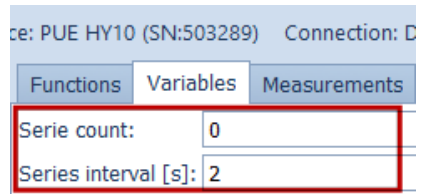
### 4.1. Functions Tab





## Buttons and options:

1. Balance/scale screen preview (mass stabilisation, taring, zeroing, current weight, selected unit, weighing pan);
2. Name and balance/scale serial number and connection details;
3. Navigation - shortcut buttons directing you to other tabs of the main window. **Caution !** Contrary to navigation buttons located within **Functions** tab workpane, these do not cause additional application of filter providing display of measurements carried out using the particular device;
4. **Functions** – main tab of the weighing device window, enabling balance/scale control and settings change:
  - a. Change of connection settings for a particular balance;
  - b. Expanding weighing device window to the whole workpane of the program;
  - c. **RadKey** function settings;
  - d. Start-up of **Parameters Editor** (if installed);
  - e. Switching main window from one tab to another and simultaneously setting filter providing display of measurements performed with use of the device on which the button was pressed;
  - f. Measurements series – press to start series of measurements carried out in specified time intervals. Measurements quantity and time interval between them is set in **Variables** tab of the weighing device window (see the figure on the right);
  - g. Continuous transmission – press to start continuous transmission mode: the device keeps sending measurements to the program few times within a second, the program records the measurement permanently. Press again to turn continuous transmission off;
  - h. Press to send request for taring. Identical in function to Tare key located on the operating panel of the device;
  - i. Press to send request for zeroing. Identical in function to Zero key located on the operating panel of the device;
  - j. Press to send request for measurement performance. Identical in function to print/enter key located on the operating panel of the device.

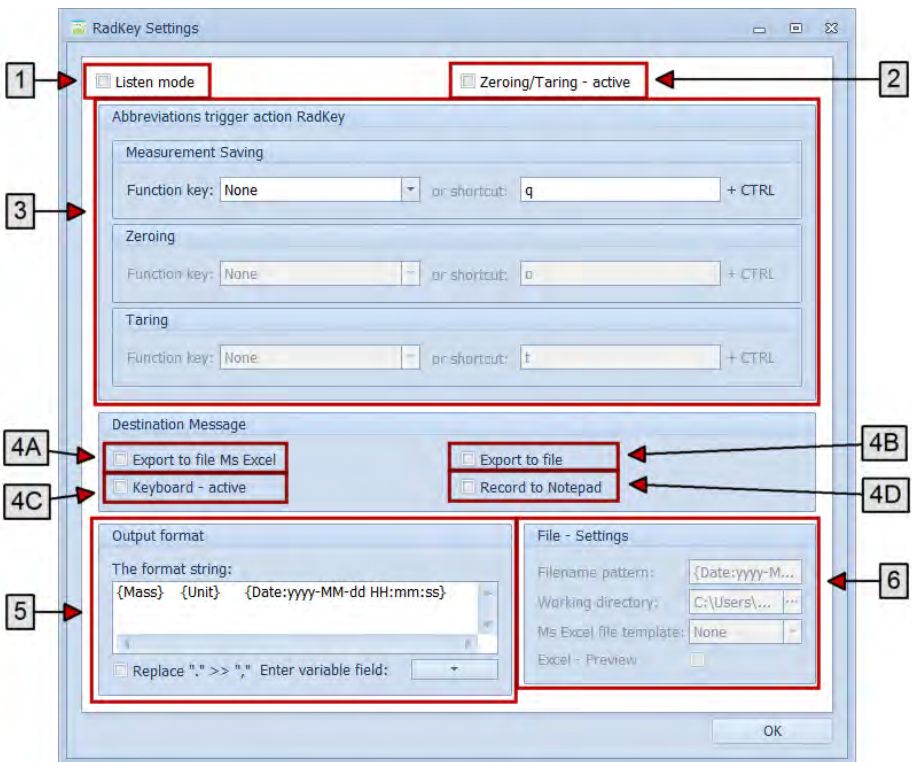


### 4.1.1. RadKey Function

**RadKey** expands **R-Lab** functionality, it offers option of direct export of measurements to other programs. Using it you can assign function keys and keyboard shortcuts with requests for record of the measurement, taring, zeroing.

#### RadKey functions:

- Assigning function keys and keyboard shortcuts with requests for record of the measurement, taring and zeroing;
- Transfer of data from the balance/scale to external software, the transferred data is inserted into cell/box over which mouse cursor is placed;
- Export of data to external software.



**RadKey** function settings may be customized.

1. Constant monitoring – upon ticking, the program is ready to receive signals informing on **RadKey** shortcuts use;



2. Assigning/cancelling Zeroing and Taring shortcuts;
3. Assigning function keys and keyboard shortcuts;
4. Direct export of measurements received via **RadKey** function:
  - a. Upon selection the messages are transferred from balance/scale to MS Office file;
  - b. Upon selection the messages are transferred from balance/scale to file;
  - c. Upon selection the messages are transferred to keyboard stream via clipboard;
  - d. Upon selection the messages are transferred to an in-built notepad (tab in the weighing device window);
5. Settings enabling format of output message of **RadKey** action. Customization of variables;
6. Settings for files created via functions:  Export to file (Export to file) and  Export to file Ms Excel (Export to Excel file).

## 4.2. Variables Tab

Functions	Variables	Measurements	Graph	Statistics	Dictionaries
Serie count:	<input type="text" value="0"/>				
Series interval [s]:	<input type="text" value="1"/>				
Description:	<input type="text" value="Enter or Choose"/>				
User:	<input type="text" value="Enter or Choose"/>				
Client:	<input type="text" value="Enter or Choose"/>				
Article:	<input type="text" value="Enter or Choose"/>				
Serie number:	<input type="text" value="001"/>				
Batch number:	<input type="text" value="001"/>				

### Buttons and options:

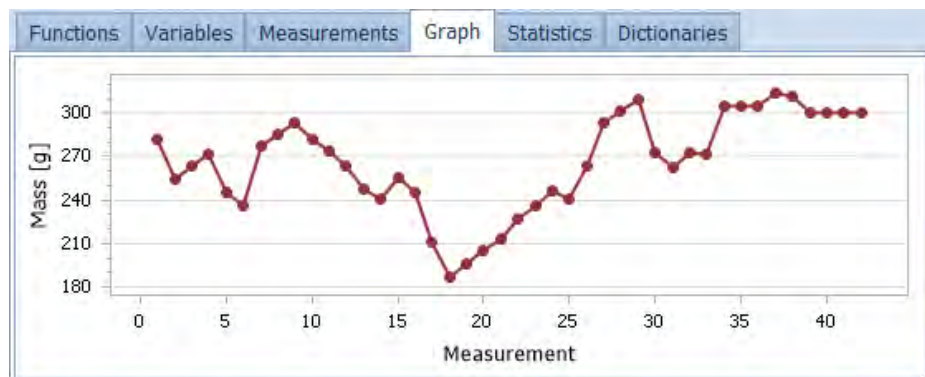
1. Box for entering number specifying how many measurements are to be carried out upon clicking measurement series button. **Caution!** If "0" is entered then measurements are carried out uninterruptedly until the button gets pressed again;
2. Time interval between successive measurements (given in seconds);
3. Entered variables will be assigned to successive measurements carried out by the given balance/scale. Each entered value (except for lot and batch number), if recorded for at least one measurement, is automatically stored in database.

### 4.3. Measurements Tab

Functions				Variables				Measurements				Graph				Statistics				Dictionaries			
Measurement								Description															
Id		Date		Mass		Unit		Batch number		Series number		Article											
36	2016.10.27	12:49:01	.850	305	g																		
37	2016.10.27	12:49:56	.274	314	g																		
38	2016.10.27	12:51:57	.329	312	g																		
39	2016.10.27	14:06:47	.426	300	g	001		03											Te				
40	2016.10.27	14:06:49	.427	300	g	001		03											Te				
41	2016.10.27	14:06:51	.430	300	g	001		03											Te				
42	2016.10.27	14:06:53	.446	300	g	001		03											Te				


**Measurements** tab of a particular weighing device window displays table with measurements carried out by the very device. This table and table of **Measurements** tab located in the main window offer similar options.

### 4.4. Graph Tab



**Graph** tab of a particular weighing device window displays simple graph generated on the basis of measurements carried out by the very device.

## 4.5. Statistics Tab

Functions	Variables	Measurements	Graph	Statistics	Dictionarys
Measurements count:	42				
Minimum value:	187				
Maximum value:	314				
Average value:	265,976190476				
Median:	272				
Average Deviation:	27,405895692				
Standard deviation:	33,253347913				

**Statistics** tab of a particular weighing device window displays statistics produced on the basis of measurements carried out by the very device. Displayed statistics values may be adjusted. Pressing **Reset Statistics** button on the right causes statistics clearance.

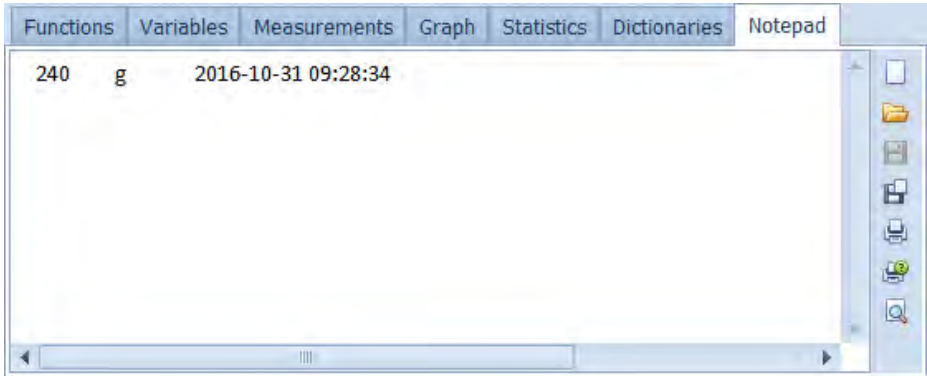
## 4.6. Dictionarys Tab

Functions	Variables	Measurements	Graph	Statistics	Dictionarys
Dictionary selection:	Clients				
▶	Testing Co.				
	Second Co.				
Record 1 of 2					
⏪ ⏩ + - ▲ ✕					

Dictionarys (databases) are comprised of lists of values which are assigned to performed measurements via **Variables** tag. Bottom bar provides buttons enabling records preview, adding, deletion and editing.

## 4.7. Notepad Tab

Notepad tab stores data sent using **RadKey** shortcuts. This tab is displayed in the weighing device window provided that it features any content.



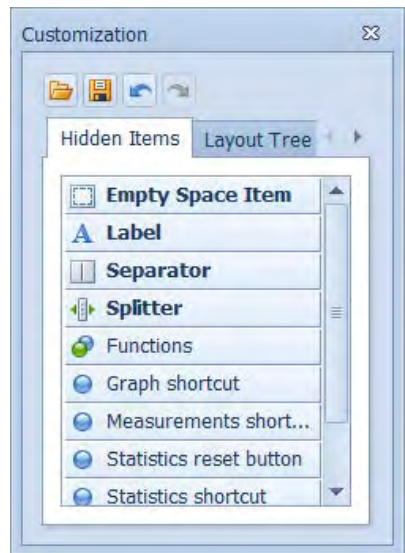
The data can be displayed, saved to file, opened and previewed on a printout and printed.

## 5. WINDOW CUSTOMIZATION

Most windows may be freely customized. To customize the window, click right mouse button placing the mouse cursor over particular window section. Customization window opens, use the options you need.

### 5.1. Weighing device window customization

Weighing device window customization is possible using context menu available upon clicking the right mouse button, when mouse cursor is in the weighing device window. Context menu offers functions enabling customization of tabs and buttons of the weighing device window.



## 5.2. Customization of Measurements tab workpane columns

Customization of columns and groups of context menu of **Measurements** tab enables you to freely adjust information on carried out measurements.

## 5.3. Customization of Statistics

Clicking the right mouse button within a workpane of **Statistics** tab located in the main window enables you to add and delete particular statistics, change their order, separate, add labels etc.





**RADWAG BALANCES AND SCALES**  
ADVANCED WEIGHING TECHNOLOGIES

