USER GUIDE

WX-010-0072

Radwag

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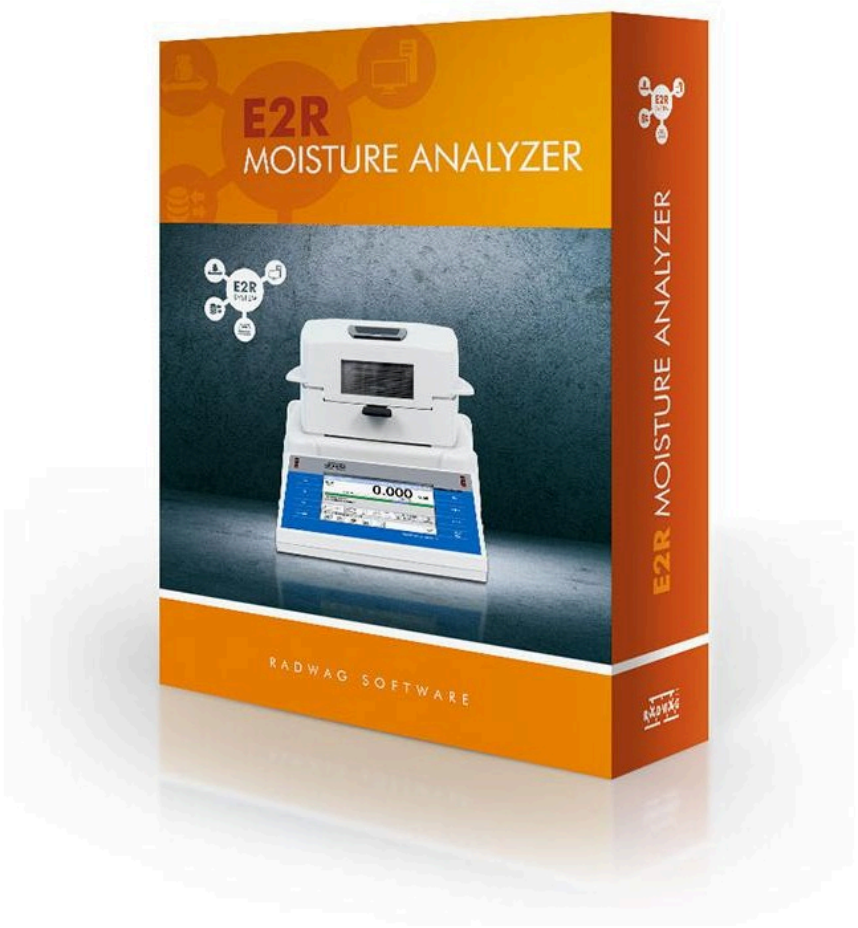

User manual

ITKU-57-01-03-10-EN

E2R Moisture analyzer

Installation version: 11.07.05

radwag.com

Scan the QR code to view additional scientific material that may be of interest to you.
There you will find more useful information in an accessible format!

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AUGUST 2011

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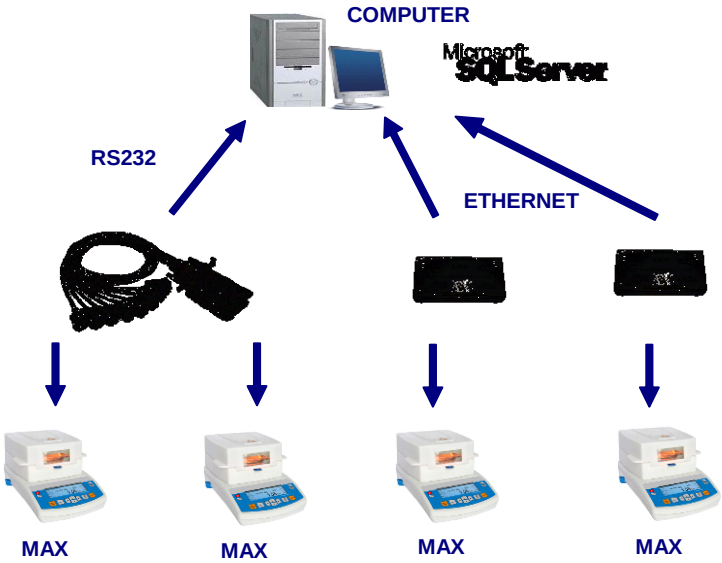
1. GENERAL INFORMATION

1.1. Basic software functions

E2R System – Moisture Analyzer is designed to keep records from measurements carried out on moisture analyzers manufactured by **RADWAG**, and connected into network with RS 232 or Ethernet standard.



Schema of connections in E2R SYSTEM – MOISTURE ANALYZER

The system enables monitoring and reporting from measurements carried out on moisture analyzers. Drying process preparation and start is arranged on a moisture analyzer.

Caution

1. *Due to the software updating process, there may occur minor differences between the content of this manual and the actual software form.*
2. ***RADWAG** company does take any responsibility for the improper software utilization and results arising from such activities.*

1.2. Balances for cooperation with the software

E2R System, due to accepted data exchange protocol, enables cooperation only with moisture analyzers offered by **RADWAG**. The moisture analyzer dedicated to cooperate with E2R System is series **MAX** (featuring graphic display).

Before initiating cooperation with the software, each of the moisture analyzers in system should have user parameters set, for ensuring proper measurement accuracy and cooperation with the computer software. Setting moisture analyzer's user parameters is detailed in instrument's user manual.

CAUTION!
Communication of a computer with a moisture analyzer requires the latter to be uploaded with software version **MBM v.44** or newer.
Additionally, RS 232 parameter "**P5 – 7 – Printer type**" of a moisture analyzer should be set to **4-PC RADWAG**.

2. INSTALLATION

2.1. Database

The engine of installed database can support any of distributed MS SQL Server. However, performance, scaling and reliability features recommend utilizing commercial platform of the SQL Server.

2.2. Minimal hardware requirements

Correct software operation requires:

- A PC computer with OS Windows 2000/XP/2003/2003 SB/Vista/7
- processor 2 GHz or faster
- RAM 1 GB or more
- Minimum of 5 GB HDD free space
- CD-ROM (recommended DVD-RW)
- RS232 ports (extendable through multiport cards)

CAUTION:

1. It is not recommended to install any other applications on the computer.

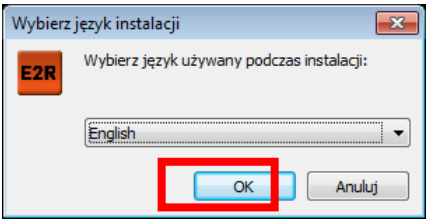
2. If the software should be installed on a customer's computer, that is not delivered by RADWAG with pre-installed software, it is necessary to:
   - Install on the computer SQL server (unless it is already installed),
   - Attach databases (only when the SQL server is installed).

3. If the software is installed on a customer's computer, than all issues referring to the hardware and software are on customer's side (the owner of the computer). Creating back-up copies of the database is also the responsibility of software operator.

4. RADWAG company does not take any responsibility for:
   - Possible influence of RADWAG System and SQL server onto operation of other applications installed on the computer (if they are installed),
   - Incorrect operation of RADWAG software and SQL server caused by functioning of other applications installed on the computer (excessive system overloading).

2.3. Installation of E2R SYSTEM

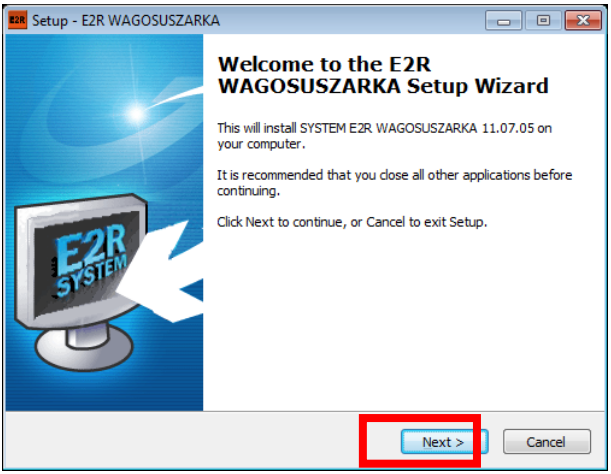
On program run, a dialogue window opens for selecting language version, which is used during software installation:



Press **„OK”** key.

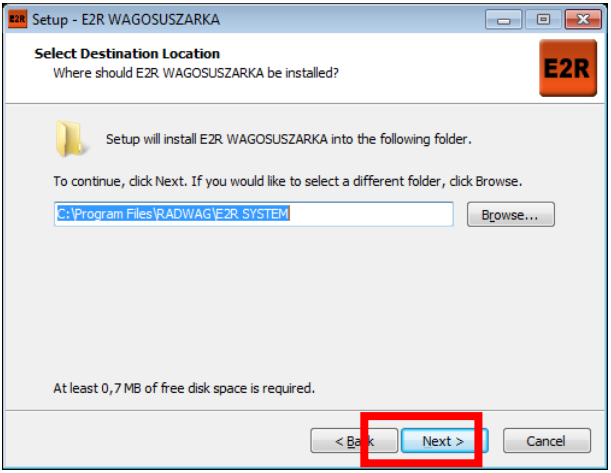
Later in the installation, follow the instructions in subsequent windows.

Install wizard welcoming window:



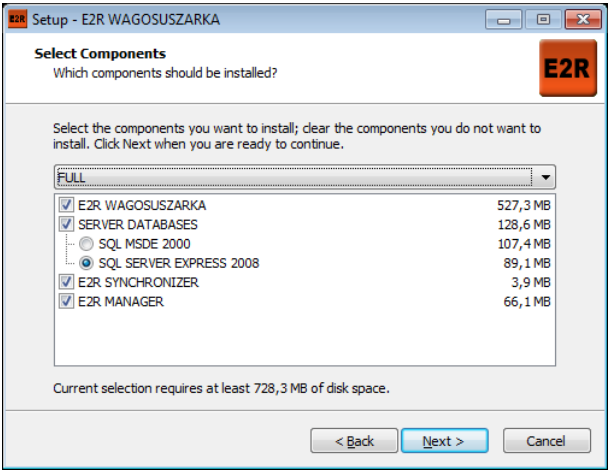
In order to continue, press **“Continue”** key.

Installation path browsing window:



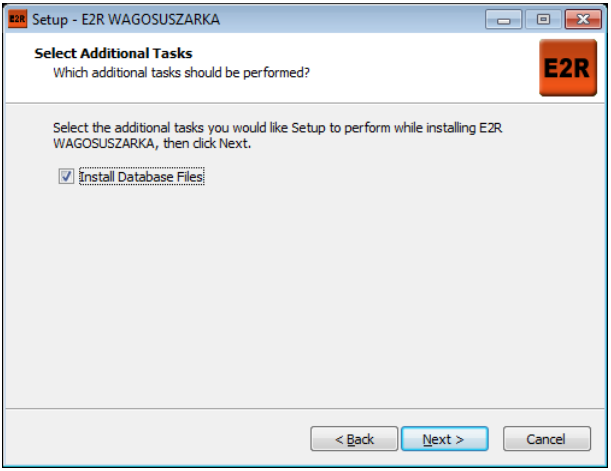
Select installation path for software installation (the default path is shown in the above picture), and press **"Continue"** key.

Select Components



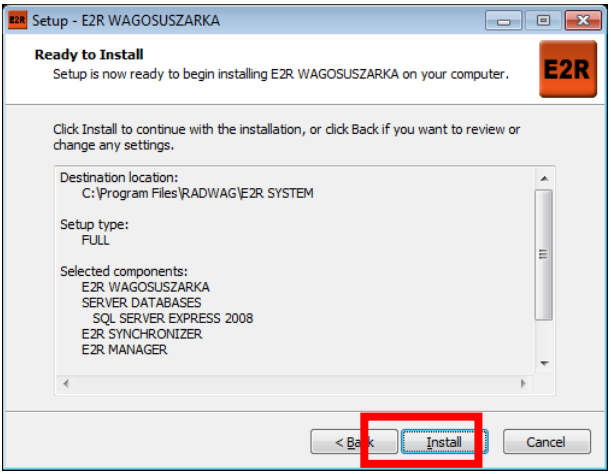
Select the components you want to install. Default select FULL, and press **"Next"** key.

Select Additional Tasks



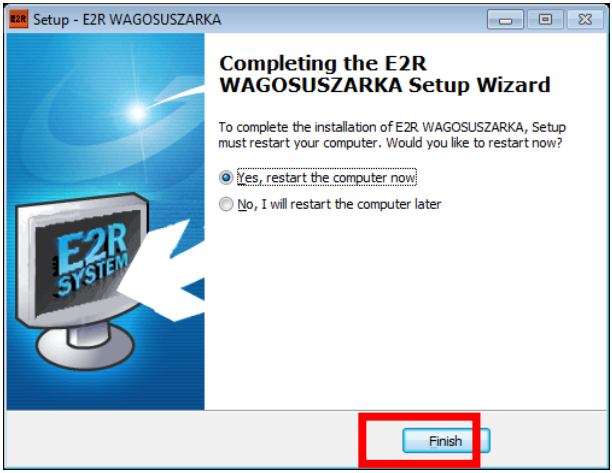
Select the additional tasks you would like setup to perform while installing. Default select Install Database Files, and press **"Next"** key.

Install wizard is ready to continue software installation:



In order to continue, press **"Continue"** key.

Window completing software installation:



In order to end installation, press **"Finish"** key.

3. E2R SYNCHRONIZER

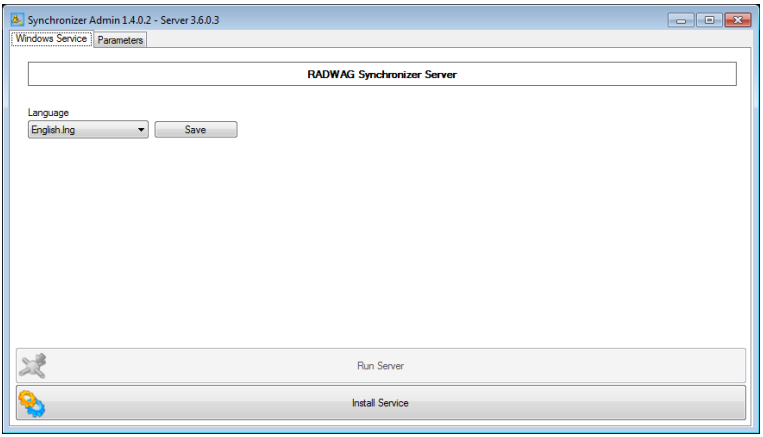
The **E2R Synchronizer** application is designed for transferring recorded measurements to **MS SQL** database and monitoring status of moisture analyzers.

The software operates as service mode – on correct configuring, it does not require user interference. It starts up automatically on Windows system start (user's log in is also redundant). As started, the E2R Synchoronizer establishes cooperation with indicated database and collects data from specific moisture analyzers.

3.1. Windows service

The main window of **E2R SYNCHRONIZER (SynchAdmin.exe)** application, comprises keys for changing its language version and management of **Radwag Synchronizer** service.

Main application window:

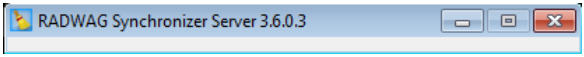


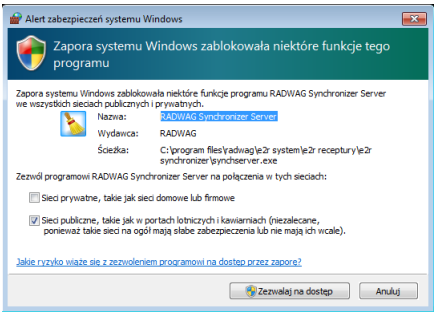
The main application taskbar features data on software version of application constituting for **Radwag Synchronizer**.

where:

Install service	–	Before starting **Radwag Synchronizer,** it should be installed in MS Windows system.
Uninstall service	–	Uninstalling **Radwag Synchronizer** from MS Windows system
Start server	–	Starting server of **Radwag Synchronizer** service
Stop server	–	Stopping server responsible for communication with a moisture analyzer.
Language	–	Language version selection window. Accessible language versions are Polish, English, Spanish. On changing language version, restart the software.
Save	–	Saving the selected language version. **CAUTION: the selected language version is effective on software restart.**

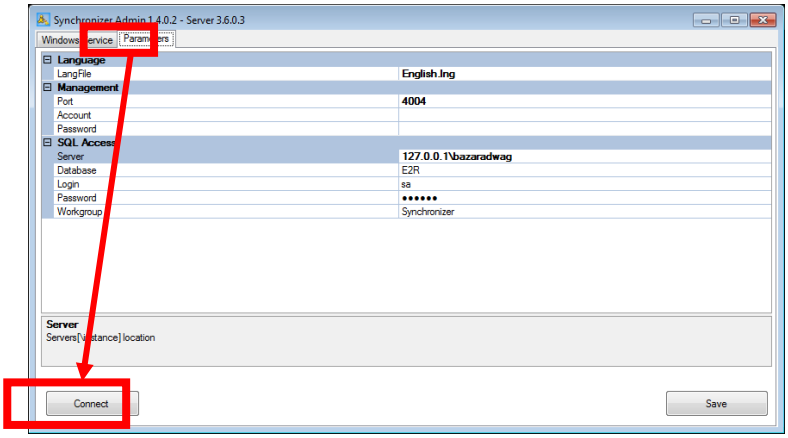
CAUTION!
In case of problems with the service, it should be stopped and uninstalled. As replacement use Radwag test application located in folder: C:\Program Files\RADWAG\E2R_SYSTEM\E2R_WAGOSUSZARKA**Server\SynchServer.exe.** The software operates as service. Only one software can operate at a time.





If Windows OS system has **Windows Firewall** set to active, it should switched off before the first run of the software.

On starting the software, move to a tab ***Parameters.***

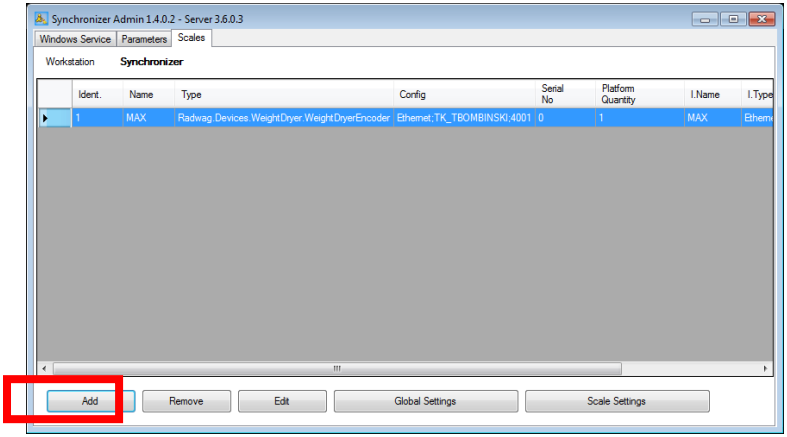


Press ***Connect*** key to connect to database for configuring moisture analyzers.

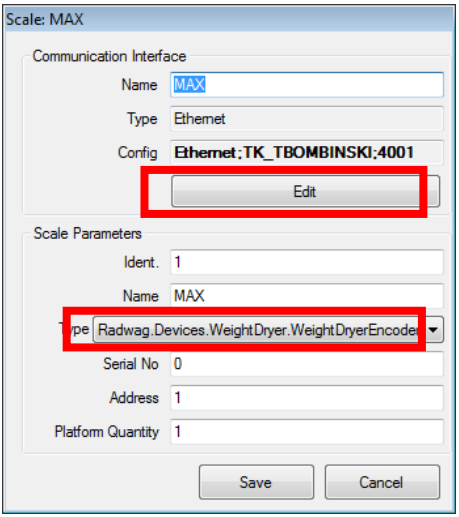
Parameters:

Server_ViewerLogin	–	Login for previewing server (default set as empty)
Serwer_ViewerPassword	–	Password for previewing server (default set as empty)
Serwer_ViewerPort	–	Previewing server port (default value **4004**)
SQL_Database	–	Database name (default name **E2R**)
SQL_Login	–	Login to SQL server (default value **sa**)
SQL_Password	–	Password to SQL server (default value **radwag**)
SQL_Server	–	SQL server directory together with an instance (IP address or computer name) (default setting **(local)\bazaradwag**)
Workstation	–	Name of a group of weighing instruments defined in a database (default name **Synchronizer**). The groups of weighing instruments are saved permanently in a database, and changing their names enables their quick switching over.

Then, pressing ***Add*** key, add moisture analyzers in the scales (balances) window.



Using Moisture analyzers edit window, fill in data correspondingly to below figure.

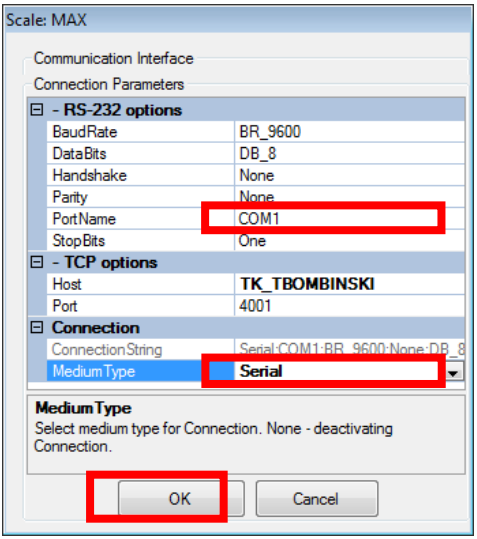


Field ***Type*** should be filled with
Radwag.Devices.WeightDryer.WeightDryerEncoder

Moisture analyzer settings:

Name	–	Optional interface name
Type	–	Displaying field of interface type (serial, Ethernet)
Configuration	–	Displaying field of interface configuration
Edition	–	Key enabling interface edition
Identification	–	Identification number of a moisture analyzer (numeric field)
Name	–	Optional moisture analyzer name
Type	–	Type of connection with a weighing instrument: • Radwag.Devices.PUE41.PUE41Encoder – connection with indicator PUEC41H • **Radwag.Devices.WeightDryer.WeightDryerEncoder** – connection with a moisture analyzer MAX
Serial Nr.	–	Moisture analyzer serial number
Address	–	Address set in a moisture analyzer
Weighing platform number	–	Weighing platform number

Using ***Edit*** key open a window for setting parameters of interface connection with a moisture analyzer.



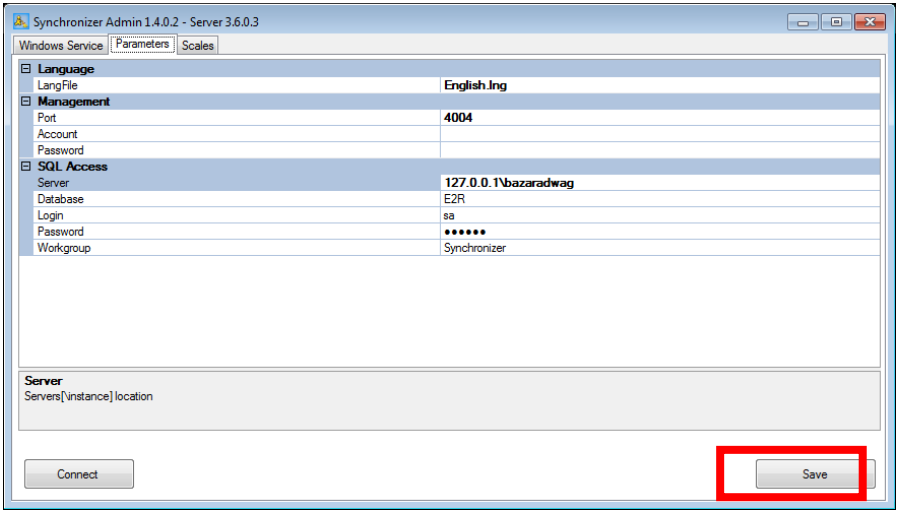
Interface settings:

ConnectionString	–	Shortened IP address of connection, configuration
EthernetHost	–	Name or IP of a remote host (for ethernet connection)
EthernetPort	–	Remote host port (default value **4001**)
MediumType	–	Connection type (None, Serial, Ethernet)
SerialBaudRate	–	RS 232 baud rate (default value **9600**)
SerialDataBits	–	Databits quantity (default value **DB_8**)
SerialHandshake	–	Control protocol for communication recognition (default value **None**)
SerialParity	–	Parity control (default value **None**)
SerialPortName	–	Communication port number
SerialStopBits	–	Stop bits value (default value **One**)

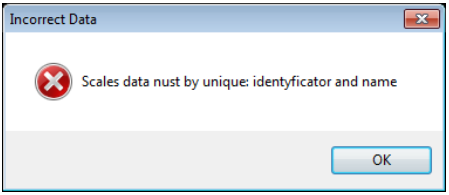
CAUTION!

All of the above settings should checked and proved with the settings of a moisture analyzer and MS Windows communication port.

On carrying out all changes (adding weighing instruments), press **Save** key.



If during adding weighing instruments below dialogue window is displayed, change the **identification number** of a moisture analyzer into another one.

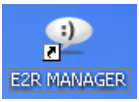


4. E2R MANAGER

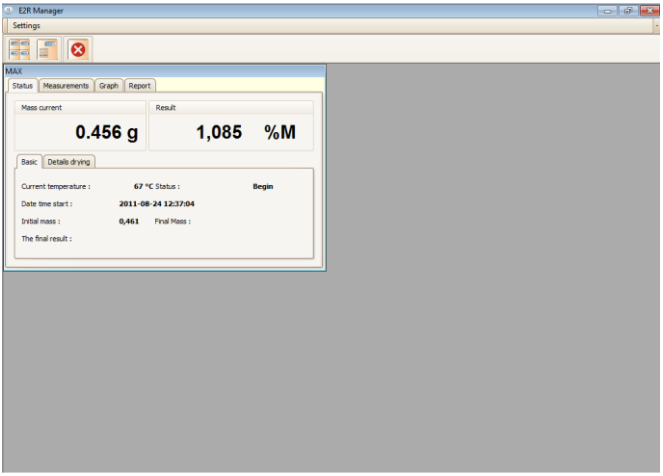
E2R Manager application is designed for displaying the communication status with a moisture analyzer, previewing saved measurements and forming charts in real time from current drying orders carried out by a moisture analyzer.

All communicates, charts and reports are for information purposes, i.e. it is not possible to save or print them in **E2R Manager** application. Saving or printing them is possible through software **E2R MOISTURE ANALYZER**.

Installation of ***SYSTEM E2R MOISTURE ANALYZER***, creates a shortcut on computer's desktop.



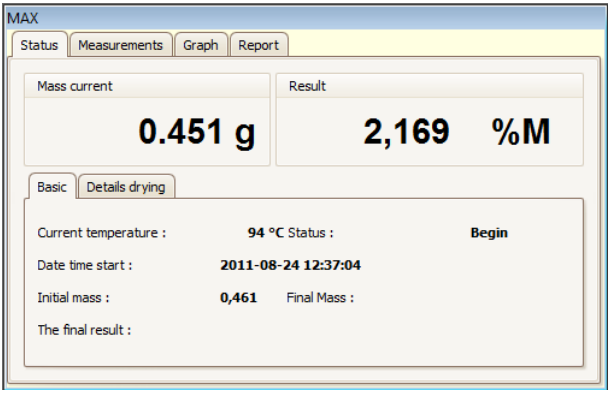
Main window of E2R Manager software



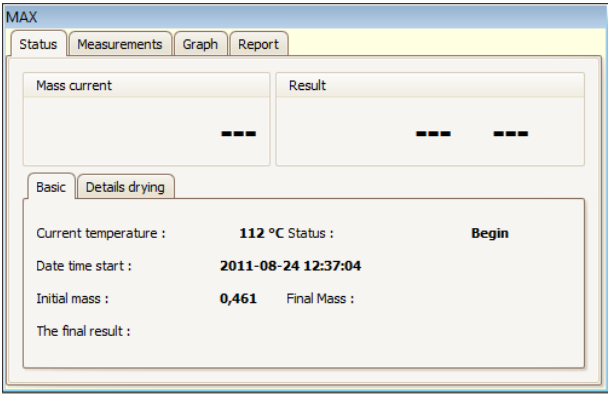
CAUTION!
In case there is no communication of **E2R Manager** with **Radwag Synchronizer** service, or the service is not started, the moisture analyzer window is not displayed.

4.1. Communication status

Connection status with a moisture analyzer is displayed in **Status** tab.



If a specific moisture analyzer does not communicate with **Radwag Synchronizer** service, then a window with current mass display indicates "**---**" characters.



If a window of current measurement result indicates "**---**" characters, it means that a moisture analyzer lost communication with **E2R Manager** or on after connecting no measurement were recorded.

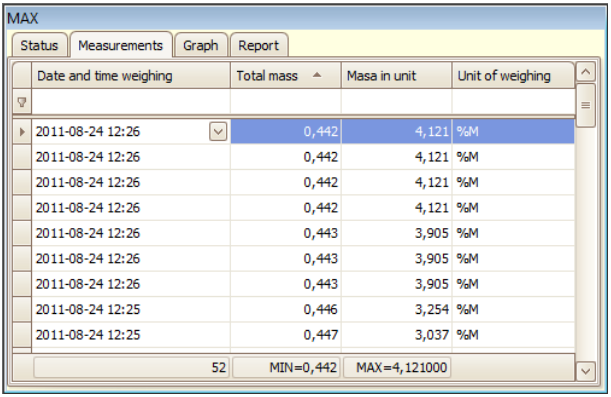
Description of information fields in status tab:

Current mass	–	Current mass placed on moisture analyzer's pan
Result	–	Drying result selected on a moisture analyzer, appears after the first measurement. %M (moisture content), %D (dry mass content), %R (moisture/dry), %M (chart), g (grams),
Basic	–	Tab including basic data on a moisture analyzer
Current temperature	–	Current drying temperature of a moisture analyzer
Status	–	Connection status with a moisture analyzer • Empty – no data on previous drying processes, drying is not started, • Interrupted – drying process interrupted (stopped), • Started – drying process in progress, • Completed – Drying process finished according to moisture analyzer's settings.
Start date and time	–	Date and time of drying process initiation
Initial mass	–	Mass on moisture analyzer's pan on drying process start

End mass	–	End mass on moisture analyzer's pan
Final result	–	Final measurement result expressed in selected unit
Drying order details	–	Tab including details of drying order
Drying time	–	Drying time counter
Refreshment time	–	Time interval between saving the following data from a moisture analyzer
Software profile	–	Drying profile activated in a moisture analyzer
Drying temperature	–	Drying temperature selected in a drying profile
Means of finish	–	Means of finishing drying order

4.2. Measurements

Tab **Measurements** displays the following measurement records that are saved in a database.



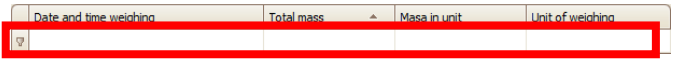
The bottom toolbar displays number of measurement records, minimal mass and maximal result. All mentioned data is optionally modifiable, depending on selected column.

Where:

- Σ – Total value for a selected column
- – Minimal value for a selected column
- – Maximal value for a selected column
- N – Number of measurement records
- Σ/n – Mean value for a selected column

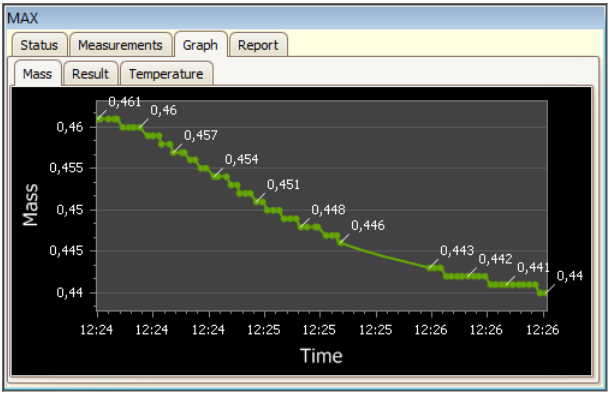
Clicking right mouse button on the bottom toolbar enables adjusting the displaying format to user's preferences.

Below the information bar there are filtering windows for inserting searched value. Advanced filtering of each column is accessible through pressing key located in the information bar.



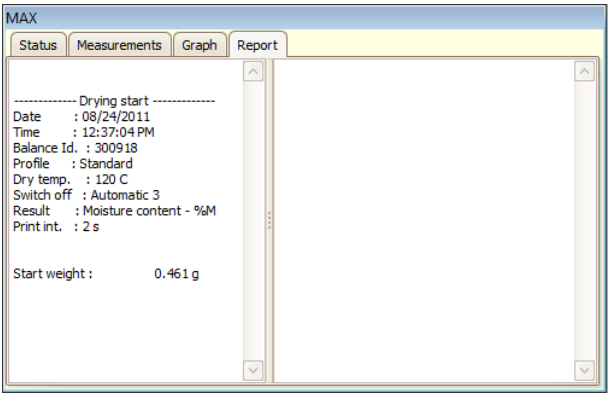
4.3. Charts

Tab **Chart** enables displaying three different charts generated on basis of current drying processes. The charts by turns contain data on mass, result (selected on a moisture analyzer) and temperature.



4.4. Report

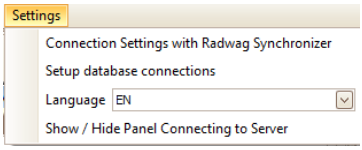
Tab **Report** enables displaying reports generated by a moisture analyzer.



Language version of a reports depends on language version selected on a moisture analyzer.
On drying process start, an initial report is generated, and completion of drying process causes generation of a final report.

4.5. Settings and windows

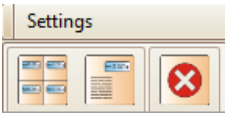
Settings menu enables accessing to functions like:



Where:

Radwag synchronizer settings	–	Window for setting connection with Radwag Synchronizer
Database settings	–	Window for setting connection with SQL database
Language	–	Change of application language version
Show / Hide panel for connecting with server	–	Activating / Deactivating a panel for connecting with weighing instrument server.

Additionally, the upper section of the display contains function quick access keys.

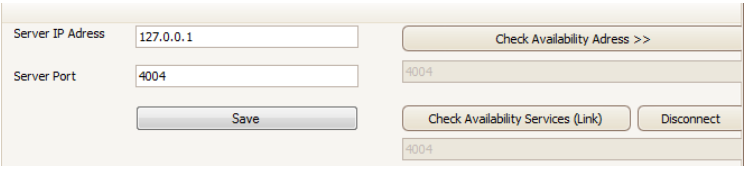


Where:

- Displaying data of four moisture analyzers in one window
- Displaying data of a selected moisture analyzer in main window
- Application shut down

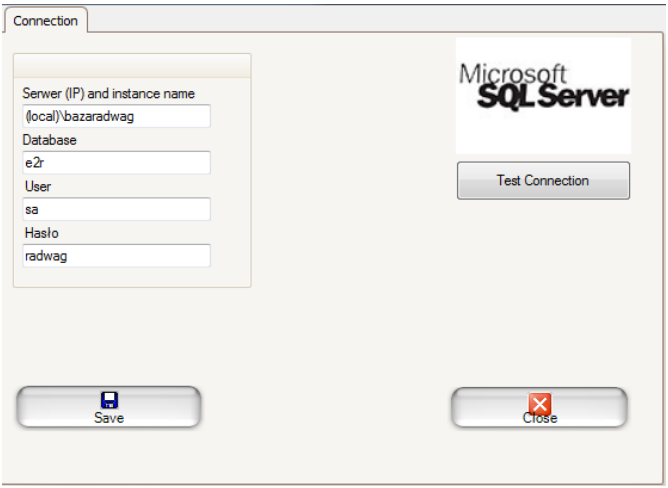
4.5.1. Radwag Synchronizer settings

Radwag synchronizer settings window is used to set **IP address** and computer **communication port** on which the service for connecting with moisture analyzers is set.



4.5.2. Database settings

CAUTION!
If on first software start, and correct connecting to a moisture analyzer there are no measurements displayed, then check database settings in tab **Database connection settings** in menu **Settings**.



Save (refresh) changes and close the settings window. The software will restart automatically.

4.5.3. Show / Hide panel for connecting with server

Menu Settings of E2R Manager enables a user to access panel for connecting the ***Radwag Synchronizer*** service. If the application is started, and there are no moisture analyzers displayed in the window, then there is no communication established with ***Radwag Synchronizer*** *service*. In such case, make sure that the service is started in MS Windows system and press ***Connect*** key on the connection panel.

Window informs on no connection.

Window informs on established connection.

5. E2R MOISTURE ANALUZER

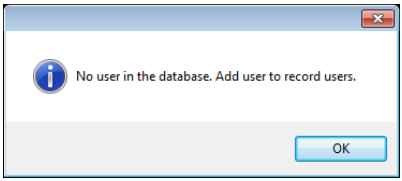
The software **E2R Moisture Analyzer** is designed to preview current measurements carried out on moisture analyzers and preview charts generated in real time.

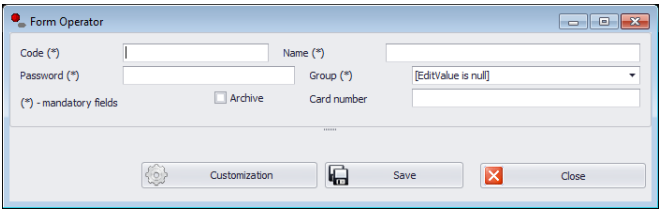
Additionally, the software gives a user access to all saved measurements carried out on moisture analyzers and their charts. Searched orders can be printed as reports or a printer or exported to a file with selected format.
The software provides access to a cumulative report presenting final results from several orders.

Installation of ***SYSTEM E2R MOISTURE ANALYZER***, creates a shortcut on computer's desktop.

5.1. Software start-up

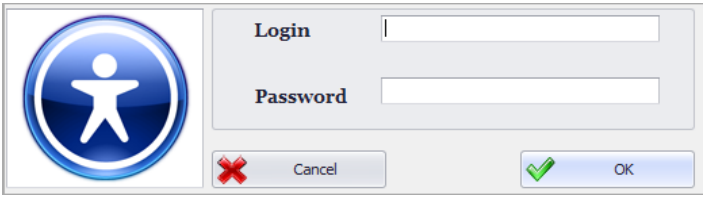
If the software is started for the first time, then there is no user inserted in the database. In a window informing on no registered users, press OK key. The software automatically moves to a window for filling in new user's weighing code (login), password, user name and user's authorization level.



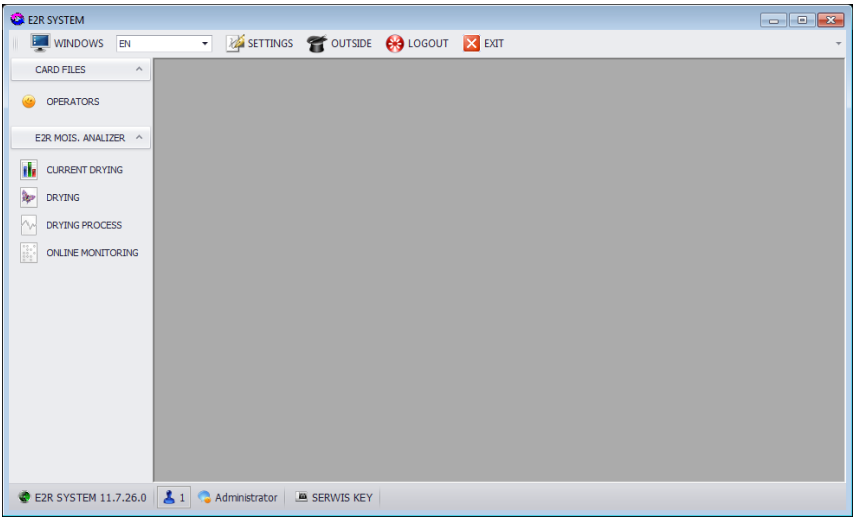


Caution:
Remember that the first user should have administrator's authorization level, otherwise there may occur problems while later setting software options.

Next, log in to the software by inserting user's weighing code and password.



On logging in to ***E2R Moisture Analyzer*** software, the main software window is displayed.

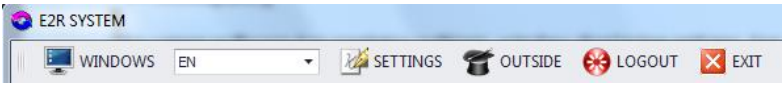


5.2. Software windows

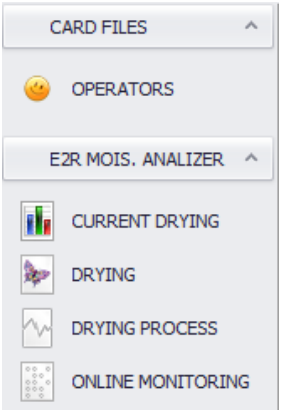
The main software window contains 4 sections:

- Upper Bar – System
- Side Bar – Operating
- Bottom bar – Information
- Workspace

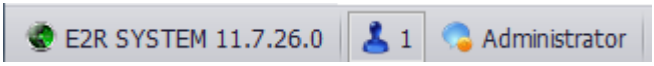
The upper software bar contains settings, window displaying options, log out and software shut down keys.



The side software bar contains software modules and operation functions.



The bottom software bar informs on software version, logged user with specified authorization level.

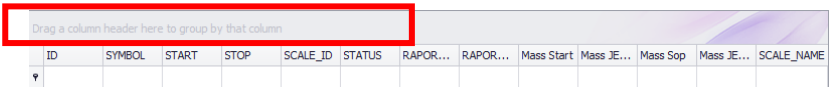


The workspace displays all windows relating to the Operating Bar, including data and information of measurements.

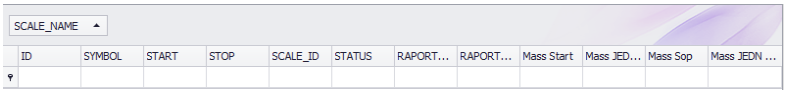
5.3. Sorting in workspace

The workspace enables optional sorting of displayed information.

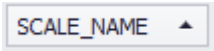
Grouping of displayed data requires selecting a column header and moving it to the below marked area.



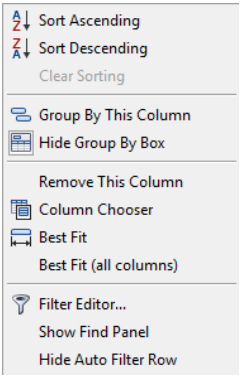
The selected column header is displayed in a form of a key with name. Single key pressing sorts the list in ascending or descending form.



Press key located on the right hand side to start additional filtering options and possibility of choosing an entry from a list.



Click right mouse button to open a context menu of sorting option.



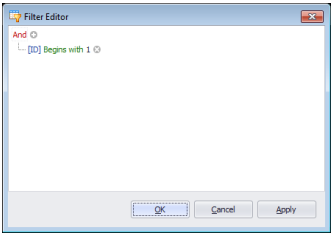
Where fields:

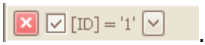
Expand all	Expand the content of all sorted fields
Wind up all	Wind up the content of all sorted fields
Sort ascending	Ascending sorting
Sort descending	Descending sorting
Separate	Delete grouping
Hide group box	Delete grouping field in view

Delete this column	Delete column from view
Select column	Start of an adjustment window with selection of columns
Auto-adjustment	Change of column width to obtain the optimal view
Delete filter	Delete set filtering
Filter editor…	Advanced filtering edition of records
Auto-adjustment (all columns)	Width change of all columns to obtain the optimal view.

The database window includes a navigation bar for easy moving through the database records.

Starting the **Filter editor...** from option menu opens a window enabling detailed setting of data filtering parameters.



On selecting filtering criteria, activate filed 

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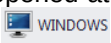
5.4. Windows displaying

5.4.1. Working window change

If a few windows are opened at a time, then switching between the windows is possible by pressing 

key. On selecting one of the windows, it is displayed in the working window.

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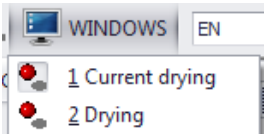
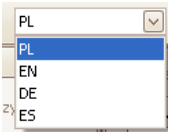


5.4.2. Language version change

Language version change is carried out by selecting one of four accessible options from the language versions list.



Where fields:

PL	Polish
EN	English
DE	German
ES	Spanish

5.4.3. Software look change

Changing the software look is carried out by pressing

key and selecting one option from the available list.

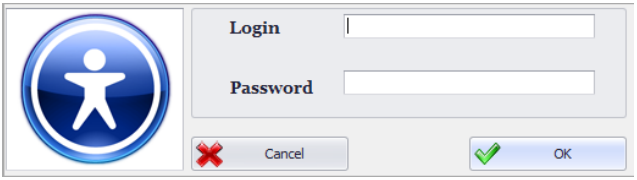
Motives:

Carmel	Brown
Money Twins	Light-blue
Lilian	Silver-blue
Asphalt World	Light-grey
iMaginary	Dark-grey
Black	Black
Blue	Dark-blue

5.4.4. Log out

Press

key to log out a user. Next, insert user Login and Password in corresponding fields, and accept them by pressing **OK** key.



5.4.5. Software shut down

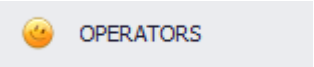
Press

key to close the software.

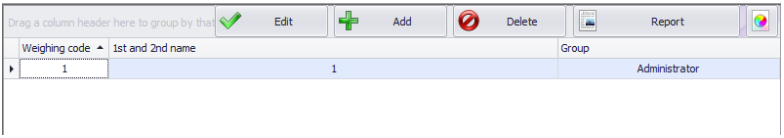
6. DATABASES

6.1. Operators

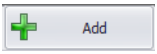
The Operators module is designed to administer software users database.
In order to start the module, select **Operators** icon in the side bar.



Operators window

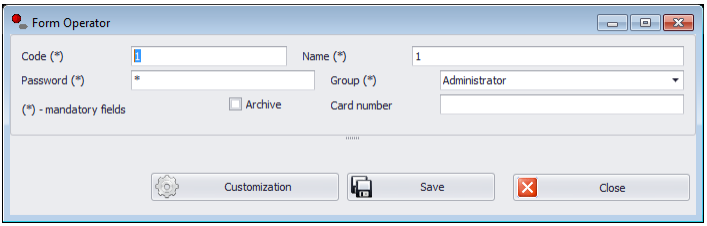


- **Add operator**

Press 

key to add an operator to the database.

Operator's adding and editing window

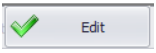


Where fields:

Weigher code	Operator's code, login
Password	Operator's password
1st and 2nd name	Operator's name and surname
Authorization level	Access level to software options. There are two basic groups: administrator and weigher. The settings of user's authorization level are located in software settings.

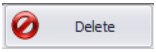
On inserting all operator's option, save the settings by pressing **Save** key..

- **Edit operator**

Press 

key to edit operator entry in the database. All options referring to editing operator record are described in submenu "Add operator".

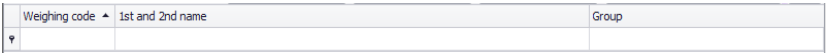
- **Delete operator**

Press 

key to delete an operator from the database.

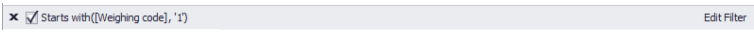
- **Search and filter Operator**

Each Operator added to the system can be searched by inserting a text corresponding to a specific column.



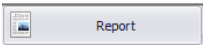
Inserting data on an operator in one of the columns, and below windows display list of operators who comply with searching criteria.

In order to delete the filter, delete all the characters in the column or deactivate the filter by pressing key in the bottom toolbar of the working window.



Sorting the content of working window is described in point 5.3 of this user manual.

- **Reporting from Operators**

In order to print a report with list of operators press 

key in the main window, and then in **Previewing** window select option **File** and **Print**.

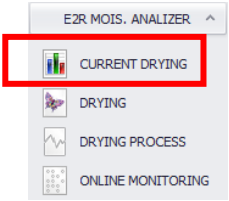
7. MOISTURE ANALYZERS

The main tab provides access to all options opening windows for previewing collected weighing records, processes and their reporting.

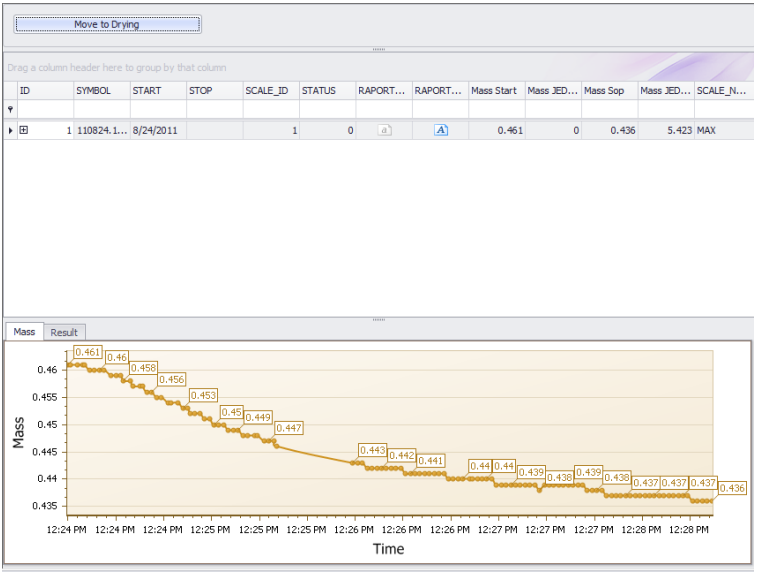
7.1. Current drying processes

The working window of tab **Current drying processes,** provides access to previewing currently executed drying processes initiated on the moisture analyzers.
Displayed data is refreshed in 10 seconds intervals.

In order to start the module, choose **MOISTURE ANALZYERS** option in the side bar, and then select option **CURRENT DRYING PROCESSES**.



Weighing window in current orders



- **Display in columns**

The window displays below data:

ID ORDER	The following number of drying process,
SYMBOL	Drying symbol assigned automatically,
START	Date and time of drying process start,
STOP	Date and time of drying process completion,
ID MOISTURE ANALYZER	Moisture analyzer identification,
STATUS	Drying process status,
RAPORT START	Preview of an initial report,
RAPORT STOP	Preview of a final report,
MASS START	Start mass of dried substance,
MASS STOP	Current mass of dried substance,
RESULT START	Initial value of drying result,
RESULT STOP	Current value of drying result,
BALANCE NAME	Name of a moisture analyzer set in the edit window of E2R Synchronizer.

On the basis of obtained results, two charts are created in real time, which demonstrate the drying process.

- **Filtering and searching for weighing records**

Each weighing record stored in the system can be searched by inserting a phrase, specific for each column.

On inserting data on drying process in a specific column, below lines indicate a list corresponding to searching criteria.

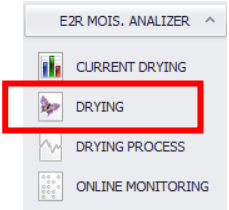
- **Weighing records updating**

In case of monitoring the status of current weighings collected from moisture analyzers, the list and charts are updated automatically within the following 10 seconds.

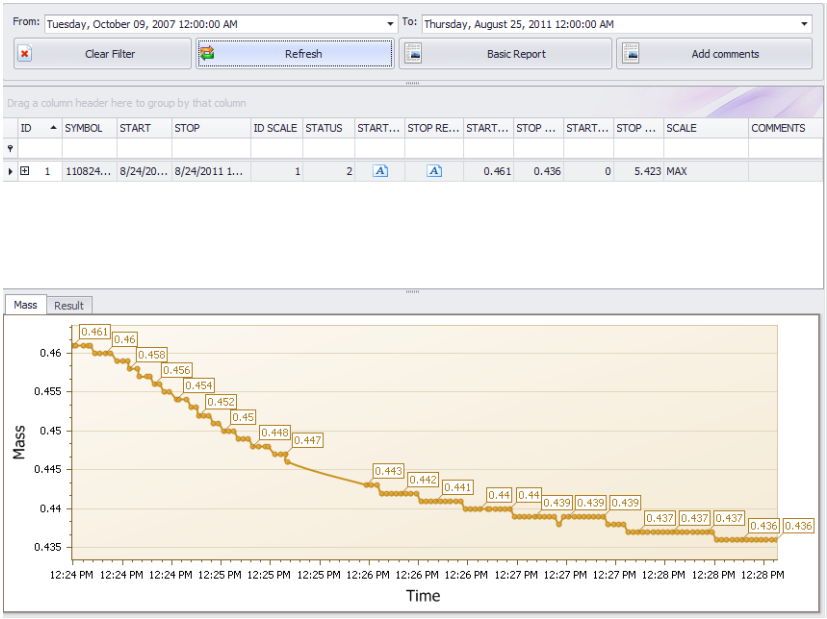
7.2. Drying records

The **Drying records** window provides access to previewing measurements and reports from drying processes accomplished on the moisture analyzers.

In order to activate the module, choose **MOISTURE ANALZYERS** in the side bar, and press **DRYING RECORDS** option.



Drying records database

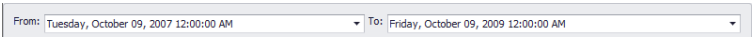


- **Display in columns**

The meaning of data displayed in window columns was described in point 7.1 of this user manual.
Selected results have their two charts displayed demonstrating the drying process.

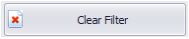
- **Filtering and searching for weighing records**

The basic filter in Drying window is time interval in which the drying order was completed. Selection of a specific time interval in the working window causes displaying orders complying with searching criteria.



Each weighing records in the system can be searched by inserting a phrase specific for a column.

On inserting data on drying process in a specific column, below lines indicate a list corresponding to searching criteria.

In order to display all drying records in the list, press 

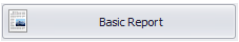
key. All applied filters will be canceled.

- **Window updating**

In case of monitoring the status of a window, the list and charts are updated on pressing

key.

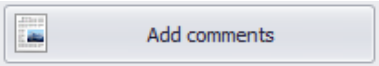
- **Reports**

On selection of a specific drying order, press 

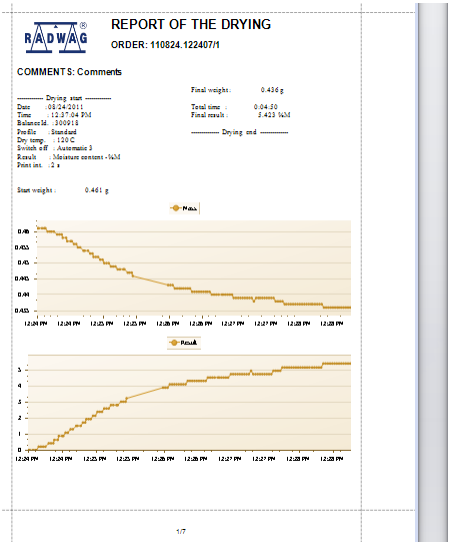
key which generates a report from drying process.

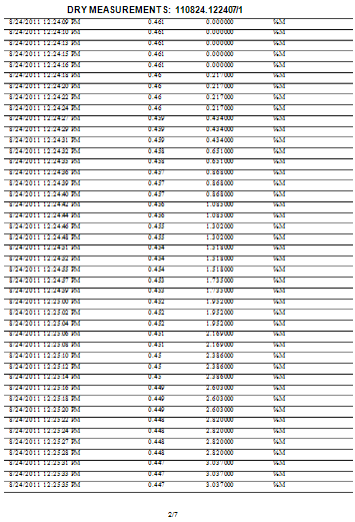
- **Comments**

For every report we can add a comment, which be displayed at the top of the report.



Report window:





The window for previewing the generated report contains quick access toolbar.

Basic function accessible in the quick access toolbar:

print on a default printer

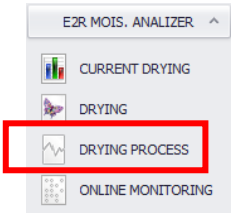
saving and repeated opening of the printout in format dedicated for this type of reports.

Exporting the printout to documents with multiple format: PDF, HTML, MHT, RTF, Excel, CSV, Text, Picture.

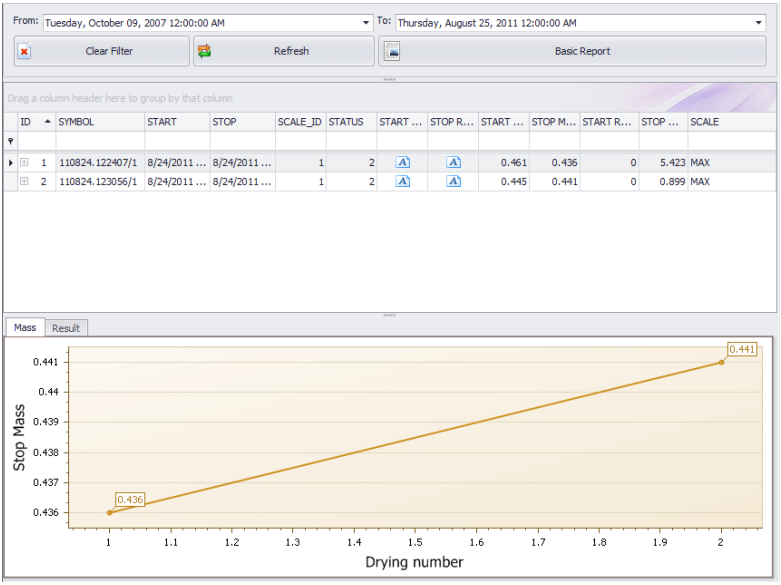
7.3. Cumulative drying

Cumulative Drying window contains data on processes and a chart with comparison of mass and final results of the following drying processes.

In order to activate the module, choose **MOISTURE ANALYZERS** option in the side bar, and press **CUMULATIVE DRYING** option.



Window comparing drying processes

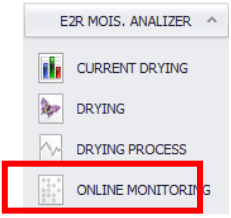


Changing the range of displayed processes is carried out with use of date filter. Description of window and function keys are equal to the ones specified in point 7.2 of this user manual.

7.4. Online preview of moisture analyzers

Press **Online Preview Moisture Analyzers** to activate **E2R MANAGER** application, which is designed to previewing moisture analyzer's status in real time.

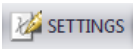
In order to activate the module, choose **MOISTURE ANALYZERS** option in the side bar, and press **ONLINE PRREVIEW OF MOISTURE ANALYZERS**.



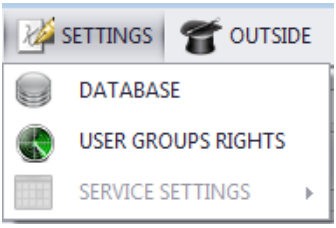
Detailed description of **E2R MANAGER** application is provided in point 4 of this user manual.

8. SETTINGS

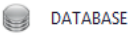
Settings menu provides access to software settings options, such as database connection parameters, settings of user groups authorization level and service settings.

The settings are activated by pressing 

key in the top bar.

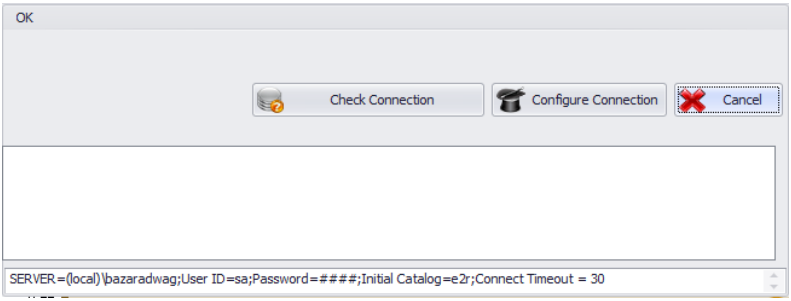


8.1. Databases

In order to activate database settings, press 

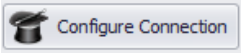
key in **Settings** menu.

The top section of the window displays connection status with database.

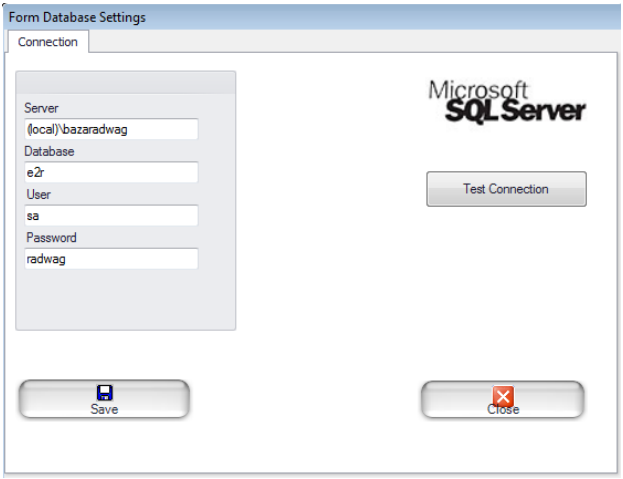


The bottom section of the window displays connection parameters with database.

- **Connection configuration**

Press 

key to open a window with parameters for connecting the software to the database.

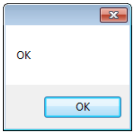


Where fields:

Server (IP)	IP or server name on which SQL server is running, if a database has declared installation, it should be also specified. Format: SERVER\INSTANCE
Database	Name of SQL database
User	User name, default value sa.
Password	User password, default radwag

Press **Test connection** to verify the connection with the database. It is followed by a window displaying current connection parameters with the database.

On accepting the above window with OK key, a message box is opened indicating connection status with the database.



- **Connection check**

Press

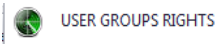
key to carry out connection check with the database.

- **Cancel changes**

In order to exit from the window and cancel introduced changes press

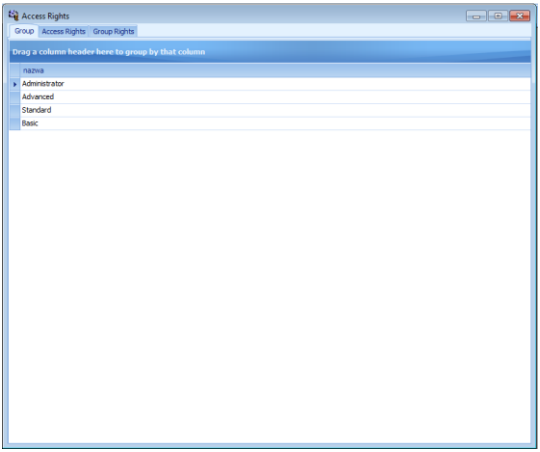
key.

8.2. Authorization level and User Groups

In order to activate user authorization level and groups press 

key in **Settings** module.

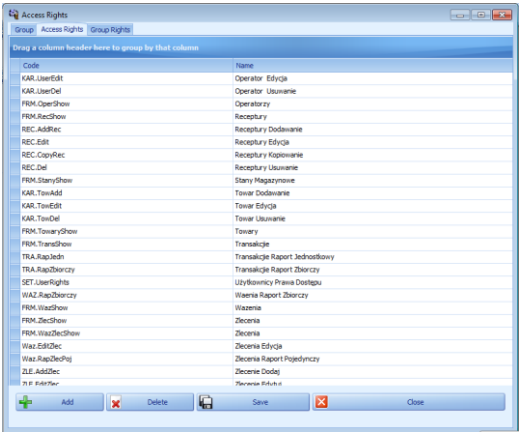
Tab **Groups** includes defined user groups.



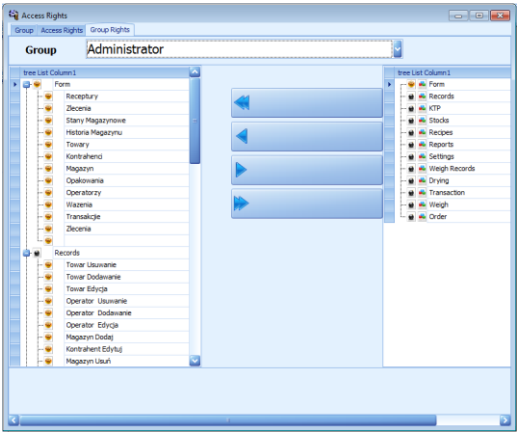
Keys:

Add	Add group of users
Delete	Delete group of users
Save	Save settings

Tab **Authorization Level** contains all codes and assigned names, which are utilized in group principles.



Tab **Group Principles** enables setting specific authorization level of software modules for the groups of users.



On selecting from extendable **Group** menu a specific group, add or delete authorization according to an established schema.

8.3. Service settings

In order to activate service settings press

key in **Settings** module.

Software service settings are accessible the representatives of RADWAG company.

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