

1 Purpose

This document describes the differences between the new software version **MagIC Net 4.0** and its predecessor **MagIC Net 3.3**.

2 New features

New columns

New separation columns for anion analysis

- Metrosep A Supp 18 - 150/4.0
- Metrosep A Supp 18 - 250/4.0

New guard columns

- Metrosep A Supp 18 Guard/4.0

Method program part

New method templates for anion analysis

- The following method templates are available for the new separation columns Metrosep A Supp 18:
 - Metrosep A Supp 18 - 150/4.0
7 anions (fluoride, chloride, nitrite, sulfate, bromide, nitrate, phosphate)
 - Metrosep A Supp 18 - 250/4.0
10 anions (fluoride, chlorite, bromate, chloride, nitrite, chlorate, bromide, sulfate, nitrate, phosphate)

Configuration program part

Instruments access rights

- In the access rights, you can define whether the user can edit the start parameters of the instruments (default value) or just view them. Refer to the *Leaflet User administration and Security settings (8.102.8093EN)*.

New instrument firmware

Firmware version	Instruments	Comment
P10201221 T10201221	Combustion Module	After the firmware update, a software update to MagIC Net 4.0 is also required. Older versions of MagIC Net do not work with the firmware versions P10201221 and T10201221. MagIC Net 4.0 only works with the firmware versions P10201221 and T10201221. The firmware update is carried out by a regional Metrohm service representative.

3 Improvements

General

MagIC Net 4.0 as 64-bit version

- MagIC Net 4.0 is installed as 64-bit version.
If it is updated from an earlier MagIC Net version, the installation remains in the existing program directory.

New Windows versions

- MagIC Net 4.0 supports the following Windows versions (only 64-bit):
 - Windows 10 Pro / Enterprise
 - Windows Server 2019
 - Windows Server 2016
 - Windows Server 2012 R2

The following Windows versions are no longer supported:

- Windows 10 Pro / Enterprise 32-bit version
- Windows 8.1 Professional / Enterprise
- Windows 7 Professional / Enterprise / Ultimate
- Windows Server 2012
- Windows Server 2008 R2

New versions of third-party software

- MagIC Net 4.0 runs with Java version 11.
- MagIC Net 4.0 runs with the FastObjects database version 14.
Due to the improved performance of the new database version, newly created databases use more disk space.
- Version 3.12 of the USB driver software is automatically installed at the same time as the installation of MagIC Net 4.0. With the new driver software, MagIC Net 4.0 can also be installed after the OMNIS Software has already been installed.
- The driver software for the Combustion Module and the 889 IC Sample Center is automatically installed at the same time as the installation of MagIC Net 4.0. The driver software does not have to be installed manually anymore.

Scalability of the software user interface

- MagIC Net 4.0 adapts to the scaling settings of Windows and can therefore also be used on high-resolution monitors.

Error messages and dialog texts

- The error message for reprocessing automatically exported determinations has a more precise wording now.
- There are now 2 error messages for cooling for the Combustion Module. A distinction is made between the cooling at the oven outlet and the cooling at the Auto Boat Driver.
- If the column thermostat is defective, 2 different error messages may now be displayed. A distinction is made between a general defect and a defect at the fuse.
- The dialog window **Reprocess** has a more precise wording now.
- The error message that appears if the cylinder volume of a dosing unit does not correspond to the selected solution has a more precise wording now.

Online help

- The actions that are recorded in the Audit Trail are documented in the online help and the manual.
- The description regarding calibration data sets has been expanded.
- The online help and the manual for MagIC Net 4.0 are also available in Chinese.

4 Fixed bugs

General

Saving

- Saving caused memory problems.

Sleep mode

- Not all of the services necessary for running MagIC Net always functioned correctly after the computer was reactivated from sleep mode.

Online help

- Various errors in the online help were corrected.

Error messages and dialog texts

- The error message that appears when the sample table is full did not contain any text.
- If the **Minimum height** or the **Minimum area** was changed during reprocessing or if the determination was integrated manually, the **015-189 Reprocessing error** error message was displayed instead of the **013-160 Incompatible data type** error message.

Configuration program part

Audit Trail 947 UV/VIS Detector

- The wavelength and the bandwidth can be adjusted in the manual control of the 947 UV/VIS Detector. If this was done during a determination, the change was not documented in an Audit Trail entry. And no message appeared in the **Information** subwindow in the **Database** program part.

Method program part

Metrosep C 6 method templates

- If another dialog language than German was selected and a method template for a Metrosep C 6 column was loaded, then the **Hardware assignment**, **Data acquisition** and **Accessories** tabs were labelled in German.

Evaluation

- The following steps led to errors in MagIC Net:
Select one of the following events in the **Evaluation - Integration** subwindow under **Integration ► Events**:
 - Smoothing
 - Minimum height
 - Minimum area

Change the value in the **Parameter** field. Click **[OK]**. Open the parameter on the **Events** tab with a double-click. The value in the **Parameter** field in the **Integration event** window was reset to the default value.

The same error occurred in the **Database** program part in the **Reprocess** dialog window.

- An exception wizard appeared in a method with a UV/VIS detector if the **Evaluation - UV/VIS** dialog window was opened in the **Evaluation - UV/VIS** subwindow with **UV/VIS ► Edit ► New**.

Dose-in gradient

- With a Dose-in gradient with the curve type **Step** and a flow of 1.0 ml/min, a volume of only 0.5 ml was dosed after a minute.

Database program part

Corrupt database

- Opening a corrupt database was canceled after a certain time without a message being displayed. Corrupt databases could not be restored anymore. Now MagIC Net attempts to restore corrupt databases. If a corrupt database cannot be restored, the error message **015-119 Database error** is displayed.

Copying and inserting components

- When copying components of an analysis and inserting them into the component list of another analysis, the **Curve type** of the calibration was set to the default setting **Linear**. The data of the standards was set to **0**. Now, however, the settings are retained.

Reprocessing

- For some methods, reprocessing took a long time. This has been optimized.

- Sometimes exceptions occurred during reprocessing, especially when calibration data was concerned.
- The **Reprocessing** dialog window froze if the following steps for reprocessing were carried out for many determinations and in quick succession. Steps: Select the first determination of the reprocessing table. Click on **[Update]**. Select the next determination with the arrow key. Click on **[Update]** again. Carry out these steps for all the determinations.
- In the **Reprocess** dialog window under **Integration ► Events**, the same error occurred as in the **Method** program part in the **Evaluation - Integration** dialog window (see "Method program part", page 4).

Database with spectra

- Database A, which contained data with spectra, was renamed. Database B, which also contained data with spectra, was created with the original name of database A. The database error 015-119 occurred when opening the database A.

Manual control program part

Eluent production in an AnCat system

- If an anion eluent and a cation eluent with different concentrations was to be produced with the 941 Eluent Production Module in the manual control, then both eluents were produced with the same concentration. Now both eluents are produced with the correct concentration.

Service functions program part

Pump head settings

- A maximum of 9,999 operating hours could be entered manually in the settings for the pump head.
Now a maximum of 50,000 hours can be entered.

5 Known bugs

General

Maximize window

- If you are working with more than one monitor and MagIC Net is not on the primary monitor, then MagIC Net will be moved to the primary monitor when you maximize the window. As a workaround, do not maximize the window, but simply make it bigger by dragging the margins.

Method program part

Statistics

- An error is displayed if the **CONCMEAN** variable is used as statistics function.
Correct approach: Only use the **CONC** variable as statistics function. To calculate the mean value, select the mean value in the **Define statistics** window.

- If the **CONCMEANSD** variable is used as statistics function, the results are output as invalid during reprocessing.
Correct approach: Only use the **CONC** variable as statistics function. To calculate the standard deviation, select the standard deviation in the **Define statistics** window.

Tandem dosing

- Tandem dosing requires 2 dosing units. Dosing unit A doses until it is empty. Then dosing unit A is filled. In the meantime dosing unit B doses. In the next row, dosing unit A starts again with dosing. Each dosing unit doses until it is completely empty and is then filled again. So it can happen that both dosing units are empty at the same time. If dosing cannot be carried out correctly, the mixing ratio of the gradient changes. To avoid this, program the method in such a way that dosing unit B is filled in the beginning or in the end of each determination.

Monitoring

- Common variables cannot be used for monitoring. If common variables are used for monitoring as **Upper limit** and **Lower limit** in a method, then the limits in a running determination are invalid.

Formula editor

- The function **Error component name CONC** is not executed correctly. If the component is not calibrated, an error should be displayed. If there is an error, the numerical value 1 (error present) is generated. Instead, the numerical value 0 (no error) is generated.

Database program part

Temperature specification

- For 930 instruments without oven, the **Analyses** tab in the **Information** subwindow shows a temperature of $-22.8\text{ }^{\circ}\text{C}$.
- If no column is defined for the analysis in a method, but a temperature is defined for the instrument, then the **Analyses** tab in the **Information** subwindow shows no temperature. Therefore always assign a column to the analysis.

Monitoring

- A lower limit and an upper limit are defined for monitored determinations. If the result is outside of the defined limits, a message is displayed on the **Messages** tab in the **Information** subwindow. If the determination is then recalculated with changed limits and the result is within the limits, the message is displayed nonetheless.

6 Compliance

The current software version does not contain any modifications that affect conformity of **MagIC Net** regarding 21 CFR Part 11 or its classification into the GAMP software category.