



# UNICORN™

## Software Change Description



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# 1 Introduction

This document describes the major implemented changes and improvements in UNICORN™ system control software since UNICORN 6.2.

## **Operating systems and UNICORN database version**

For information about compatibility between UNICORN software versions and the supported operating systems and database versions see the *UNICORN Compatibility matrix* at:

<http://www.cytiva.com/UNICORNcompatibility>

## 2 UNICORN 7.8 vs UNICORN 7.7

### New features

- **Support for ÄKTA oligosynt™ oligonucleotide synthesizer.**
  - Target sequence available from method creation to evaluation.
  - Online integration of detritylation peaks during run, providing estimated coupling efficiency.
- **Automatic generation of PDF reports at the end of a run.** These PDF reports are stored in C:\Program Files (x86)\Cytiva\UNICORN\UNICORN 7.8\Documentation\Report.

### Corrected defects

Several defects have been corrected in this release. The following are some examples:

Defect ID	CCM	Summary
22461	05732400	Not possible to loop snapshot instruction
23357	06255384	Run.log file filled with "WARN InstrumentServerAdapter: Update system time zone failed"
23655	06592856	Ambiguous information in the manual regarding network printer setup for Instrument Server
23726		In <b>Evaluation</b> , add the option of using the left/right arrows on the keyboard to pan the zoomed chromatogram with more precise control
24100	06932082	<b>Method Queue</b> start time cannot be set lower than current time even if date is in the future

# 3 UNICORN 7.7 vs UNICORN 7.6

## New features

- Command-line installation now allows IT organization to package the installation and send it out for new installation or upgrade.
- Possibility to set 4 y-axis in **Evaluation**
- Possibility to define customized report templates for printing, for example, layout of chart, header and footer content
- Possibility to print documentation information together with chart and tables in **Evaluation**

## Security improvements

When installing UNICORN database

- Encrypted database communication is enabled by default
- Latest available SQL patches are installed

**Note:** *When upgrading a UNICORN database, old settings remain.*

## Other

UNICORN 7.7 supports Trending Tool 2.0.

## Corrected defects

Several defects have been corrected in this release. The following are some examples

Defect ID	CCM	Summary
22297	05475770	Login without having to use a password after auto log off
22169	05391025	<b>System Setting</b> forgotten by UNICORN software
21485	00820301	Release Object in DB Management cause <b>Last Modified</b> data change
21844	Part of 00832576	Print of <b>Evaluation log</b> in documentation print is missing dates for UNICORN 5 results
22311	05597875	<b>CV/h</b> not calculated if <b>Column Logbook</b> is not enabled
22042	01313856	Archiving results during an ongoing run can end up with lost results
22503	05817790	Unable to save phases based on the <b>User Defined</b> phase
21571		Users in LDAP sub groups not allowed to check in to UNICORN software
23464		Automatic E-mail notification for alarm and warning not working when encryption is enabled

# 4 UNICORN 7.6 vs UNICORN 7.5

## New features

- Support for ÄKTA go™ Frac **F9-T**.
- Possibility to **Align at phase start** in **Evaluation**. The x-axis will be aligned to the start point of the selected phase. This allows comparison of results with, for example, different sample volume.
- Possibility to replace outdated root certificates via the UNICORN Service Tool
- User interface is updated for Cytiva.
- Web browser based contextual help.

## Security improvement

UNICORN 7.6 will patch RTU:s with latest security patches.

## Performance

Database communication for example, import of Instrument Configuration to long distance database, is improved.

## Corrected defects

Several defects have been corrected in this release. The following are some examples:

Defect ID	Case ID	Description
13432	EngaGE 00981276	Cannot create report for result where a variable exists in many blocks.
14705	CSSx 245453	When OPC was connected an unknown error occurred when saving result at the end of run
17748	00540405	Method queue stopped before it was completed, due to new user not having access to folder.
17888	05452560	When connected to several systems in system control and using keyboard to tab between systems, pressing END may end the wrong system.
19183	00637600	User should not be able to rename locked methods and results.
19189	00636051	UNICORN software logs says method changed when method is signed
19503	00643546	System name can not end with a space.
19513	00636051	UNICORN software logs were not capturing all Window authentication attempts

Defect ID	Case ID	Description
19515	00636051	Time zone discrepancy in Integrity report for negative zones, say -4 in one section and +4 in another.
19618	00650967	Runtime backup first entry is logged repeatedly when Instrument Server is started.
19668	00654148	"Control message" hidden behind "Alarm-message" .
19683	00635344	System time zone not displayed
19865	00661934	Answers to Questions for imported UNICORN 5.x results may not be shown.
20290	00670235	Change of result name in start protocol not saved in special scenario (Browse followed by Cancel) .
20574 20575	00728105	CU960 memory error at data recovery.
20639	00748634	No other extension than <b>ExtensionAPI 2.0</b> can be used together with UNICORN 5 Import extension.
21525	Not available	Unable to restore UNICORN 6 database.
20257	Not available	UNICORN 7.5 upgrade installation scenario does not install the certificates for UNICORN online.
20353	00733229	Possible to start run even if creation of data backup fails.

# 5 UNICORN 7.5 vs UNICORN 7.4

## New features

- Possibility to measure distance and signal fluctuations between two points in a curve has been added in Evaluation.
- Possibility to select which database to log on to when starting UNICORN software.
- Improved possibility to select user and password for database communication in enterprise installations.
- New access rights for Rename and Edit operations.
- Support for setting up a scouting with multiple runs with the same running conditions.
- Compatibility with new version of SQL server® express 2017.

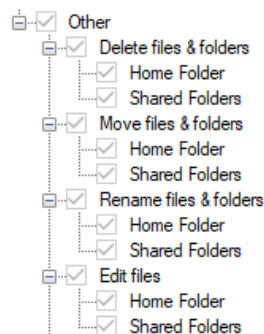
## Security improvements

- Critical vulnerability in e-License server is addressed.
- Possibility to encrypt OPC communication provided.
- Improved possibility to select user and password for database communication in enterprise installations.
- Improved encryption of password available.

See *UNICORN 7.5 Privacy and Security Manual* for detail information on security improvements.

## Access rights improvements

- Possibility to provide access rights for Move and Delete operations independently.
- Access rights for Rename and Edit operations added.





- Column protection mode has been moved from User Setting to Access Rights. This allows the administrator to decide whether this function to be enabled or not.



### IMPORTANT

Previous settings for column protection mode will be disabled when you upgrade to UNICORN 7.5. The settings can be enabled again in Access Rights.

## Other improvements

- Performance of the Method Editor has been improved.
- CU-9x0 watch peak max function algorithm has been improved to avoid triggering by early fluctuations in the run. However, it is still possible to configure CU-9x0 to use the previous algorithm.
- Data viewer tool has been updated to support Windows® 10 and printing of PDF of log files in batches.

## Corrected defects

Several defects have been corrected in this release. The following are some examples:

Reference no.	Description
ALM: 17453 CCM: 00546585	Not possible to import method from UNICORN 5 to UNICORN 7 when the method contains unused blocks with messages with two commas.
ALM: 17831 CCM: 00559076	Data points function in <b>Evaluation</b> shows wrong values when moved outside the curve range
ALM: 17865 CCM: 00570213	Changing drop-down list variables in start protocol does not take effect in run.
ALM: 18092 CCM: 00578910	System out of memory exception during import of large UNICORN 5 res-file.
ALM: 18473	Links between <b>DoE</b> factors and <b>Method</b> variables lost.
ALM: 18662 CCM: 00620147	ÄKTAcrossflow™ results generated in UNICORN 5.31 cannot be opened in <b>Evaluation</b> .
ALM: 18770 CCM: 00624030	In the peak table header in Evaluation, the wrong unit is displayed for extinction coefficient.
ALM: 19187 CCM: 00636051	UNICORN software does not log failed signing with Windows users.

Reference no.	Description
ALM: 19190 CCM: 00636051	Time zone discrepancy for negative time zones in Integrity report, e.g. -4 and +4 in different sections, when -4 is correct.

## Limitations

- New database version is not compatible with previous versions.
- UNICORN 7.5 is not verified with Windows 7.

# 6 UNICORN 7.4 vs UNICORN 7.3

## Updated user interface

All major modules of UNICORN 7.4 are updated with improved user interface to align with Cytiva user interface guidelines.

## Simplified installation

It is now possible to install UNICORN software using Windows command-line, see *UNICORN Command-line Installation Guide*. The installation can be done with very limited or without any user interaction.

## Security Hardening

- It is now possible to encrypt E-mail communication.
- Some password policy rules are added. For more information, see *UNICORN Privacy and Security Manual*.
- It is now mandatory to change password for **Default** user.
- Third-party component NancyFX is updated because of critical security vulnerability (CVE-2017-9785)

## OS Support

- UNICORN software now supports both UK and US English language packages. For more information on language compatibility, see [UNICORN Compatibility Matrix](#).
- UNICORN software now supports Windows 10 Enterprise.

## Reduced plate height

Calculation of reduced plate height (h) is added in **Evaluation**. It allows normalization of the HETP values bases on the particle size for the used resin. The reduced plate height can be saved into the column logbook and it is possible to set notifications limits.

## Upgraded result version

Result version has been upgraded to display the result of the reduced plate height calculation in the peak table.

## Extended handling of nested Watch blocks

The functionality of handling **nested Watch recursion** (sometimes referred to as "infinite loops") is now supported.

A typical use of this functionality is to collect peaks separately without knowing in advance how many peaks are expected.

## Corrected defects

Several defects have been corrected in this release. The following are some examples:

Reference no.	Description
ALM: 15768, 15136 CCM: 00317301, 00257162	Handle differences in UPN/group name and SAMaccount name in Active Directory® affecting logon as windows user.
ALM: 17678 CCM: 00409889	Retrieving groups from Active Directory not working on Windows 10.
ALM: 16438, 16236 CCM: 00405049, 00395197	When changing user during run the user who started the run is logged as the one who ended it.
ALM: 16695 CCM: 00416615	Wrong time unit for method base is printed in reports made for ÄKTA process™ systems. For example, "h" printed instead of "min".
ALM: 11355, 12807 CSSX: 612445061-U260 EngaGE: 417116	Sub-blocks used in multiple blocks are removed if one of the blocks containing the subblock is removed.
ALM: 15481 CCM: 00311626	Open result in new Eval gets locked when automatic log off is performed.
ALM: 11521 CCM: 00376048	UNICORN software client becomes slower and slower when evaluating results and performing actions like apply layout, edit peak table, and save in Evaluation Classic.
ALM: 16186 CCM: 00388149	With Logbook disabled, the user is prompted to choose column individual when changing an ongoing scouting run.
ALM: 16281 CCM: 00391005	Issue with adding scouting runs, in start protocol or during run when scouting on watch action that is set to call a block.
ALM: 16394 CCM: 00399483	Not possible to view scouting variables in results in Evaluation unless Instrument Server is running.
ALM: 11403	Changing variable values in Start protocol works but changing back to default value does not register.
ALM: 13844 EngaGE: 229589	Not possible to select base, time or volume, for run log and run notes when exporting documentation.
ALM: 18016 CCM: 00576261	Cannot start runs because runtime backup files are not cleared.

Reference no.	Description
ALM: 17892 CCM: 00570977	Integrity check fails for instrument related files (phases) when using several legacy configurations in Method Editor. Defect was introduced in UNICORN 7.2.
	Several issues on, installing UNICORN software, importing Instrument Configuration and connecting to system in Windows 10 are resolved.

## Performance improvement

The overall performance of the software has been improved.

# 7 UNICORN 7.3 vs UNICORN 7.2

## Support for ÄKTA pilot 600

Compatibility with the ÄKTA™ pilot 600 system is implemented in UNICORN 7.3.

## Column performance workflow in Evaluation

It is now possible to inspect, revise, and calculate column performance values and save them into the column logbook.

## Generic method adaptation

For custom packed columns, it is now possible to create generic methods that are adapted for a specific column at the start of a run, taking actual column volume into account.

## Increase of decimals

The number of decimals for the run data field **Accumulate volume** and **Accumulated block volume** have been increased to 2.

## MSXML version upgrade

From this release, MSXML 6 . 0 is used instead of MSXML 4 . 0 for better cyber security. If there is any MSXML 4 . 0 installed in the PC, it is recommended to remove it if no other application is using it.

## Improvement

The overall quality of the software has been improved by correcting several defects.

# 8 UNICORN 7.2 vs UNICORN 7.1

## Important Note

**Note:** *UNICORN 7.2 includes features that support alternative ways of deploying ÄKTA avant and ÄKTA pure™ systems. At present, all alternative deployments are not available, and therefore an updated version of this document will be published later with information on those features supporting the deployments.*

## Support for ÄKTACrossflow

Compatibility with the ÄKTACrossflow system is implemented in UNICORN 7.2.

## Support for filtration applications

Three workflows are added to the Evaluation module to support results analysis from filtration applications, using the following algorithms:

### Capacity Plots

This algorithm allows the user to plot any process parameter versus the accumulating permeate volume normalized to the capacity, i.e., the surface area. For example:

- Flux vs Capacity
- TMP vs Capacity
- External vs Capacity

### Diafiltration Time Optimization

- Finds the optimal concentration for diafiltration.
- Performed on results from a concentration process run at maximum concentration factor.

### Process Optimization

- Analyze process characterization experiments where a series of set points are tested. For example, excursions of Transmembrane Pressure (TMP) at different cross flow rates and protein concentrations.
- Allows to overlay multiple plots. For example, Flux vx TMP at different cross flow rates or protein concentrations.

## Firewall ports

The following firewall ports need to be opened:

- 40511
- 40512

## Corrections and improvements

- Pressure calibration values are now handled correctly in ÄKTA ready™.
- UNICORN software can now log modifications in the filtration analysis.
- Filtration analysis can now be printed from UNICORN software.
- It is now possible to view the **Variables** and **Scouting** tabs in **Documentation** for a result in **Evaluation** even if the instrument server related to that result is not up and running.
- Several defects are corrected to improve quality both in UNICORN software and supported systems.



## 9 UNICORN 7.1 vs UNICORN 7.0.2

### Support for filtration applications

Two workflows are added to the Evaluation module to support results analysis from filtration applications, using the following algorithms:

- Any versus any algorithm provides the capability to plot any process parameters captured as curves from a filtration run. The algorithm can be used to graphically display data from any two curves generated during concentration, diafiltration or processing of cells.
- Normalized Water Flux (NWF) algorithm used to test membrane permeability. The test allows to automatically calculate the normalized water flux from a result file, and also to view results from multiple cycles in a single plot. This helps to ensure that the cleaning process is effective and to determine the lifetime of a filter.

### Monitor run in Column Volume (CV)

When the column volume is specified, the progress of a run in the **System Control** module can be monitored in CV both in the chromatogram, in **Run Data** and in the **Run Log**.

### Flow rate in CV/h (Column flow)

UNICORN 7.1 adds functionality which simplifies scaling of methods when using columns with different bed height, as well as functionality for easy comparison of results run on different systems. UNICORN 7.1 has a new flow unit in CV/h, which can be used in **System Control** and when creating methods in the **Method Editor**. This flow is referred to as column flow and has a functionality similar to the existing linear flow (cm/h).

When using the column flow the residence time is kept even when scaling of methods using columns with different bed height.

### Compare UV data generated with UV cells of different path length

In the **Evaluation** module, it is possible to normalize the UV curves in a result to make them appear as if they were detected by a UV cell with 1 cm UV path length. This simplifies comparison of results generated using different systems.

### Calculate amount and concentration for legacy systems

UNICORN 7.1 provides support to calculate amount and concentration for results from older systems, by allowing the user to manually enter the UV path length where this is not provided by the system.

# 10 UNICORN 7.0.2 vs UNICORN 7.0.1

## Secure Windows Active Directory communication

UNICORN 7.0.2 offers secure **Windows Active Directory** communication for user authentication. **Windows Active Directory** must be configured for secure communication.

For more information see *UNICORN Hardening Guide*.

## Secure database communication

UNICORN 7.0.2 offers secure database communication with an option to use trusted certificates.

For more information see *UNICORN Hardening Guide*.

## Change database password

The default database passwords for UNICORN software is changed targeting security issues.

UNICORN software can now be configured to use a new database password.

It is possible to generate an encrypted password or to enter an already encrypted password. This is done by running the **UNICORN Service Tool** after UNICORN software installation. See *UNICORN Service Tool User Manual* for details on how to configure UNICORN software to use the new database password.

## Support for scouting on Frac-950

The possibility to set up scouting runs on specific fractionation parameters with Frac-950.

## Corrections and improvements

The following corrections and improvements are implemented in UNICORN 7.0.2:

- Possibility to include snapshots in time base in reports.
- Linear flow is now handled correct when saving text edited phases to phase library. When such phase is added to another method using another column the same linear flow rate will be kept.
- Text wrapping is implemented in scouting header for long variable names.
- Possibility to define separate filters in **System control** for the Run log and the Run log curve.
- Correct calculation of *Run summary* when method contains watches.
- Possibility to change scouting for parameters set to **OFF** that have drop down lists, e.g. pump wash parameters.

- Corrected defect related to **Curve export** in **Evaluation Classic** when data reduction is selected.
- Corrected defect related to **Curve export** in **Evaluation Classic** when **Normalize retention** is selected.
- Import of methods and result from UNICORN 5 has improved with possibility to import the following:
  - Methods including messages with character "#".
  - Methods containing blocks with more than one **End\_block** instruction.
  - Results that contains a date and time with indication of summer or standard time.
  - Results that contain signed questions.

# 11 UNICORN 7.0.1 vs UNICORN 7.0

## SQL Server

The UNICORN software database is verified for:

- SQL Server 2008 R2, 32-bit and 64-bit, running on Windows 7 Professional with SP1 installed, 64-bit
- SQL Server 2012 with SP2 installed, 64-bit, running on Windows Server® 2012 R2
- SQL Server 2014, 64-bit, running on Windows Server 2012 R2

## Compatible systems

Compatibility with the ÄKTA ready system is implemented in UNICORN 7.0.1.

## E-mail notifications

The functionality of sending e-mail notifications from UNICORN 7.0.1 is improved. It is now possible to send e-mail notifications about an event (alarm, warning, or error) that has been issued on the system, to the following persons:

- User who started the run
- User who currently has control of the system
- Optional e-mail receiver (type the appropriate e-mail address in the input field)

The users must define their e-mail addresses in the user profile to be able to receive the e-mail notifications.

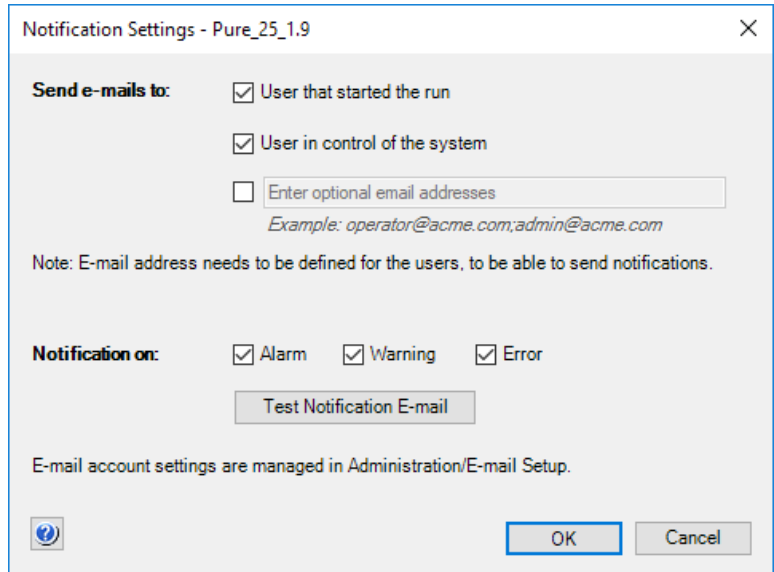
Follow the instructions to enable notifications for alarms, warnings and errors.

Step	Action
1	In the <b>System Control</b> module, on the <b>System</b> menu, click <b>Notification Settings</b> .

Step	Action
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*Result:*

The **Notification Settings** dialog box opens.



2 Select one or more of the available check boxes:

- **User that started the run**
- **User in control of the system**
- **Enter optional email addresses.** Type in one or more e-mail addresses in the empty text field. Separate multiple addresses with a semicolon.

3 Select for which occurrences notifications should be sent in the **Notification on** check boxes.

4 Click **Test Notification E-mail** to test if the e-mail settings are correct.

5 Click **OK**.

## Folder access rights

The user access rights in UNICORN 7.0.1 are specified as follows:

- All users who have access to a folder can read and write to the folder.
- All users who have access to a folder can rename items in the folder.
- To overwrite an item or to delete an item, the user must have the appropriate access rights specified. The administrator must select the check box **Delete/Move files & folders** to give the user these rights.

The user access rights described above are valid for both the user's home folder and for shared folders.

The access category **Delete/copy/move files & folders** has been renamed to **Delete/Move files & folders** to reflect the changes in folder access rights.

## New upgrade procedure from UNICORN 6.0 or 6.1

You must have the UNICORN 6.0 or UNICORN 6.1 installation disks to uninstall these older versions of UNICORN.

Step	Action
1	Backup the database as described in UNICORN Administration and Technical Manual.
2	<p>Insert the UNICORN 6.0 or UNICORN 6.1 installation DVD in your DVD drive.</p> <p><i>Result:</i></p> <p>The UNICORN Installation wizard opens with a welcome dialog box.</p> <p><b>Tip:</b></p> <p><i>If the DVD drive is not set up to allow automatic start, browse the DVD contents and double-click the file <code>Setup.exe</code> in the UNICORN software folder to initiate the installation.</i></p>
3	Click <b>Remove Installation</b> and proceed to uninstall the old UNICORN software version.
4	Install the newer UNICORN software version as described in UNICORN Administration and Technical Manual, but do not define a system or import any column lists, report formats or recipes since the backup performed in Step 1 will be restored later on.
5	Install the workstation e-license on the instrument server computer as described in UNICORN Administration and Technical Manual.
6	<p>Uninstall the oldest version of OPC Core Components from the Windows <b>Uninstall or change a program</b> dialog box and repair the latest version.</p> <p>To open the <b>Uninstall or change a program</b> dialog box:</p> <ul style="list-style-type: none"> <li>• In <b>Control Panel</b>, in the <b>Programs</b> group, click <b>Uninstall a program</b>.</li> </ul>
7	<p>Restore the database backup as described in UNICORN Administration and Technical Manual.</p> <p><b>Note:</b></p> <p><i>The default backup location has changed since the old UNICORN software version so the old database backup might have to be moved into the new backup location. Run a manual backup as described in the to create this location.</i></p>

<b>Step</b>	<b>Action</b>
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8	Upgrade the database as described in <i>UNICORN Administration and Technical Manual</i> .
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## **Corrections and improvements**

The following corrections and improvements are implemented in UNICORN 7.0.1:

- Various memory and performance defects have been corrected.
- Adjustable timeout has been implemented.

# 12 UNICORN 7.0 vs UNICORN 6.4.1

## New Evaluation module

UNICORN 7.0.2 includes a default **Evaluation** module that provides a simplified user interface optimized for most commonly used workflows like quick evaluation, compare results and work with peaks and fractions.

## General

- New user interface with instant visual feedback that supports common workflows such as:
  - Quick evaluation.
  - Compare results.
  - Work with peaks and fractions.
- Undo in several steps.

## Peak area calculation

- Calculate amount and concentration in peaks.
- Align peaks to fractions.
- Integration window with improved baseline.
- Auto integration/Single click integration.

## Results

- New result browser with quick filter and sorting options.
- Result preview in result browser.

## Chart

- Right y-axis in chart.
- Display method information in chart:
  - Scouting variables.
  - Phases.
- Shift offset in both x and y direction.
- Zoom miniature displayed.
- Panning in zoomed chart.
- Change curve layout from context menu.
- Improved copy of chart.
- Easy curve selection.



## Compare

- Compare in column volume unit.
- Compare results in overlay or tile view.
- Sort results on scouting variables to see trending.

## Optional Evaluation Classic module

The previous evaluation module has changed name to **Evaluation Classic**. To perform operations like **DoE** that are not included in the default **Evaluation** module, users can easily switch to **Evaluation Classic**. This is an optional module that requires an additional license.

## OPC certification

UNICORN software OPC server Data Access 2.05a and Data Access 3.0 have been certified by OPC Foundation.

## Corrections and improvements

The following corrections and improvements are implemented in UNICORN 7.0:

- Corrections of the LDAP functionality.
- Raw data status is now kept when performing **Save as** and **Import** result.
- Corrected **Import curve from file** function.
- Improved algorithm for display of data in volume base. Previously the curve could be jagged at low flow rates.
- Improved options for configuring archiving of results in enterprise solutions.

# 13 UNICORN 6.4.1 vs UNICORN 6.4

## UNICORN software Service Tool

The new application UNICORN software Service Tool is used to troubleshoot and set parameters in an existing UNICORN software installation. It can also be used to make sure that the operating system environment is properly set up prior to installing UNICORN software.

## DoE sweet spot plot

The new DoE evaluation function sweet spot plot graphically displays the range where two or more selected response criteria are satisfied.

## Database connection status

A database connection status field is added to the status bar of the **System Control** module.

## OPC certification

UNICORN software OPC server Data Access 2.05a and Data Access 3.0 are certified by OPC Foundation.

## Corrections and improvements

The following corrections and improvements are implemented in UNICORN 6.4.1:

- Improved error handling when database connection is lost.
- Corrected peak detection algorithm. It is now possible to detect signal levels lower than the signal level at the start of detection.
- Corrected BufferPro recipe creation. It is now possible to select an **Acid/Base** when only one buffer substance is selected.
- Improvement of DoE re-randomize of experimental plan. If possible, system setup is kept when changing DoE response or factor settings.
- It is now possible to export methods or results to UNC path (\\server\share\folder path).
- It is now possible to install a database when security policies forced passwords to be longer than 8 characters.

# 14 UNICORN 6.4 vs UNICORN 6.3.2

## UNICORN software extension framework

In UNICORN 6.4 it is possible to extend UNICORN with software packages for specific purposes, that is, extensions.

UNICORN software extensions can be loaded into all UNICORN applications.

## UNICORN software database compatibility

After upgrading the UNICORN database to the database version that is delivered together with UNICORN 6.4 (database version 1.6.7), it is still possible to connect UNICORN 6.3.2 clients to the upgraded database.

**Note:** *Future database versions will allow for minor upgrades of the database where the old clients does not have to be upgraded.*

## Corrections and improvements

The following corrections and improvements are implemented in UNICORN 6.4:

- Major performance improvements of creating and editing large methods.
- Corrections in the **Maintenance Manager** dialog for UNIFLUX systems.
- Unable to view X-axis in CV in the **Method Editor** module.
- Improvements of the handling of the CompactFlash (CF) memory card of CU-960.
- The **Maintenance Manager** dialog support for ÄKTA explorer and ÄKTA purifier.
- Correction of the import of UNICORN 5 strategies.
- Correction of issues in the **Method Wizard** for ÄKTA explorer and ÄKTA purifier that occurred when using sample pump.
- CU-960 communication issues have been solved. Changes in the CU-950/960 software have been introduced to avoid short disconnects between the CU-950/960 and the UNICORN PC. This occurs mostly when starting a method or manual run after the system has been idle for several hours.

**Note:** *It is recommended that the CF memory card is removed if **System settings** → **Generic** → **Data recovery** → **OFF** is selected in the **System Control** module.*

# 15 UNICORN 6.3.2 vs UNICORN 6.3.1

## Import and export of DoE results, method queues and folders

In UNICORN 6.3.2 it is possible to import and export **Design of Experiments** results, method queues and folders to and from a specified target system from the **Method Editor** module and the **Evaluation** module.

## Support for cell cultivation

UNICORN 6.3.2 has support for control, supervision and evaluation of cell cultivation runs.

## Corrections and improvements

The following corrections and improvements are implemented in UNICORN 6.3.2:

- Correction of the issue that it was not possible to access text methods in some results.
- Improvements of connection between UNICORN and UNICORN Instrument Server.

# 16 UNICORN 6.3.1 vs UNICORN 6.3

## Corrections

The following corrections and improvements are implemented in UNICORN 6.3.1:

- Retrieval of results from older UNICORN software versions is supported.
- Pressure regulation functions when working from the **Process picture**.
- Shorter waiting time for starting a method queue.
- Method notes are saved in a method or result file.
- ÄKTA avant sample application phase works.

# 17 UNICORN 6.3 vs UNICORN 6.2

## Client and instrument server installation

For UNICORN 6.3 the client and the instrument server installations are no longer separated.

## License handling

UNICORN 6.3 features a new solution for license handling. There are different types of e-licenses. A node locked license can be used on one workstation only and a floating license can be used on any workstation in a network, however only on one workstation at the time. **Design of Experiments** and **Column handling** require separate e-licenses.

## Power-save

In UNICORN 6.3, it is possible to enable power-save for a connected ÄKTA pure system. A time can be set for how long the instrument is in state **Ready** before power-save mode is entered.

## E-mail notifications

UNICORN 6.3 features the possibility to make notification settings. If an alarm, a warning or an error occurs during a run, it is possible to get a notification sent to a specified e-mail address.

## Column type filtration

It is possible to filtrate the column type list based on **Technique**, **Diameter**, **Access label** and/or **Search** criteria.

## Process picture

UNICORN 6.3 has a new improved process picture applicable for ÄKTA pure, with the possibility to execute instructions directly from the process picture.

## Performance test method layout

The layout of the performance test methods has been improved in UNICORN 6.3.

## Adapt methods

UNICORN 6.3 features a new solution to automatically adapt a method when opening or saving it after change of active components for an ÄKTA pure system.

## **Corrections and improvements**

A number of corrections and improvements are implemented in UNICORN 6.3, including the following:

- Improved stability in the connection between the UNICORN Client and the ÄKTA system.
- Improved resource management and memory usage.
- Simplified installation and uninstallation of UNICORN.



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