

ZS XPLOER SOFTWARE: v2.0.1 (PSS0048-10) SOFTWARE UPDATE NOTIFICATION

Introduction

This document details the release of **Zetasizer XPLOER software version 2.0.1 (PSS0048-10)** for the Zetasizer Advance range of instruments. Here forward referred to as ZS XPLOER.

This release supports the Zetasizer Advance range of systems instruments only (including Pro (ZSU5800) and Ultra (ZSU5700) models).

ZS XPLOER is not compatible with the Zetasizer Nano series of instruments (Nano S90, Nano ZS90, Nano S, Nano ZS, Nano ZSE, Nano ZSP, Zetasizer μ V and Zetasizer APS) nor can it read the *.dts file format from the Classic Zetasizer series software 8.01 or earlier. However, it is possible to have both the ZS XPLOER software and the Zetasizer software 7.02 or above installed on the same computer.

Installation

It is assumed that you have authority to install or update software within your company's SOPs. If you do not have this authority, please consult with your I.T. support department before proceeding.

It is assumed that you have Administrator rights for the computer. This is required by the installation process. For ZS XPLOER software, Windows 10 and later will not allow an installation if the user does not have administrator access. This is in line with Microsoft's Logo policy and is standard practice.



IMPORTANT:

Only Windows 10 64-bit Operating System is supported

Microsoft user accounts are not supported

If using Windows domain user accounts the user domain must match that of the PC where ZS Xplorer, and its components, are being installed

Before installation of the software, the instrument should be switched off and disconnected.

Recommended System Requirements

The recommended computer system requirements for running this software are highlighted in table 1 below.

Table 1 Recommended system requirements for ZS Xplorer software.

Feature	Specification
Processor Type	4th Gen+ Intel Core i7 Processor (or equivalent)
Memory	16 GB RAM
Hard Disk Storage	1 TB free hard disk space,
Display Resolution	1920 x 1080 full HD screen resolution
Connectivity	2 free USB2.0 or higher ports
Operating System *	Windows 10 64 bit. * The ZS XPLORER software is not compatible with 32-bit Operating Systems

Supported operating systems

ZS XPLORER is compatible with Windows 10 (tested on Windows 10 1903 version and later). Only 64-bit Professional versions are supported.

Supported Languages

- English

Installation Instructions

Installation process

The software suite is available as a web download. The downloaded extractor contains the ZS XPLORER Setup and License Manager Setup files. License Manager is a prerequisite of ZS XPLORER.

When the extractor is run (See Figure 1) it will extract the required installers to a folder named 'MPInstallers' in the location the extractor is run, and the folder and a readme with important information will be opened (See Figure 2).

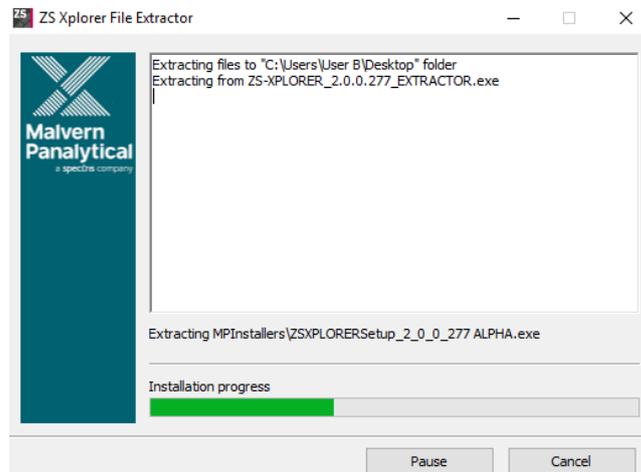


Figure 1 ZS Xplorer Self-Extracting Installation files

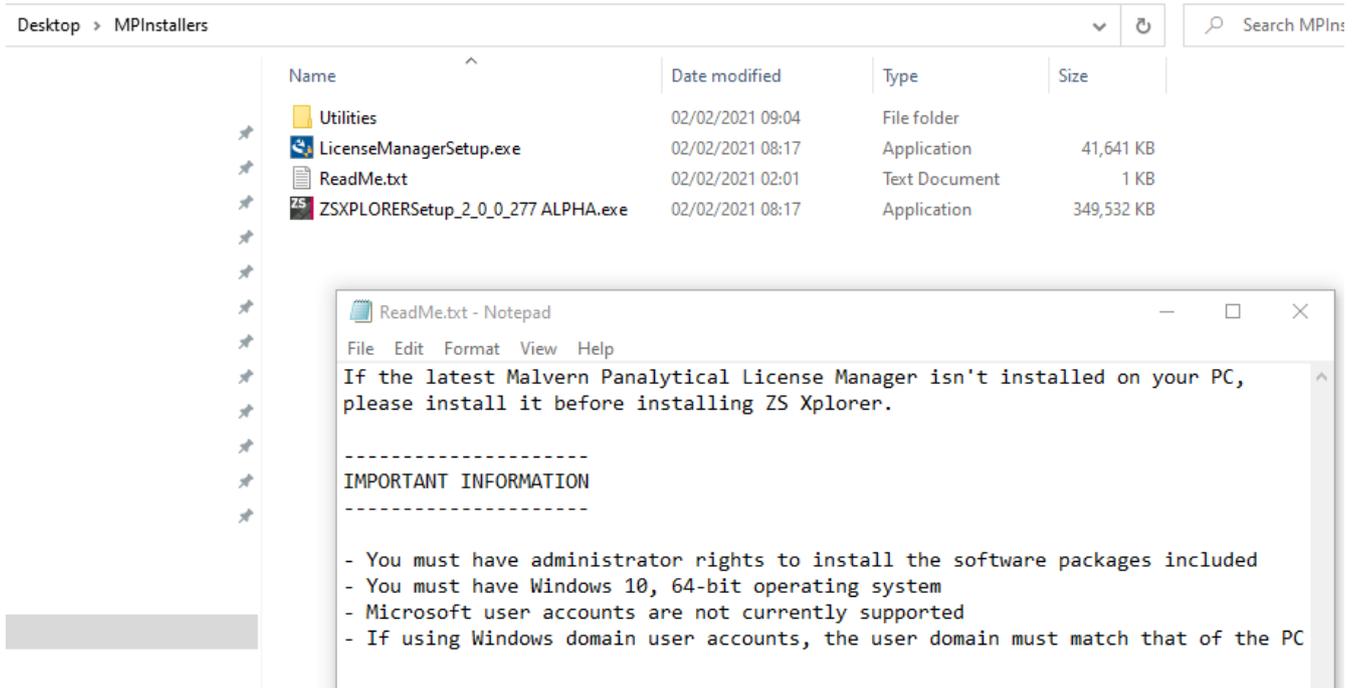


Figure 2 Extracted installation files and ReadMe file.

License manager Installation

The Malvern Panalytical license manager component is a requirement for the ZS XPLORER software to run correctly and must be installed prior to the installation of ZS XPLORER. Please note that users upgrading from 2.00 do not require to re-install License Manager. Those upgrading from 1.50 or earlier must install License manager.

ZS XPLORER Installation

During the installation process, you will be prompted with the following message (Figure 3).

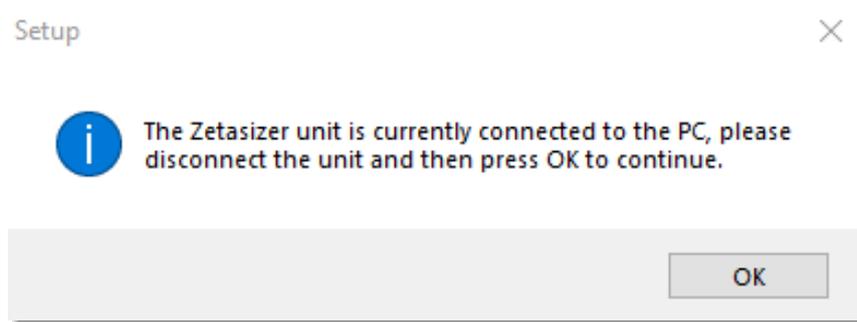


Figure 3: "Disconnect Zetasizer Unit" message



Note:

You must unplug the USB cable from the computer or Zetasizer and then press OK. If you press the OK button without performing these previous steps, then the installation will not continue.

Microsoft .Net Framework and Microsoft C++ Redistributable

The Microsoft .Net Framework 4 (version 4.6.2 or greater) and the Microsoft Visual C++ Redistributable must be installed for the ZS XPLOER software to run. This is installed during the ZS XPLOER software installation progress and under certain circumstances can involve the computer needing to restart. Completion of this stage of the installation can take a few minutes and can take over 10 minutes. Whilst these components are being installed a window such as below will be displayed, figure 4.

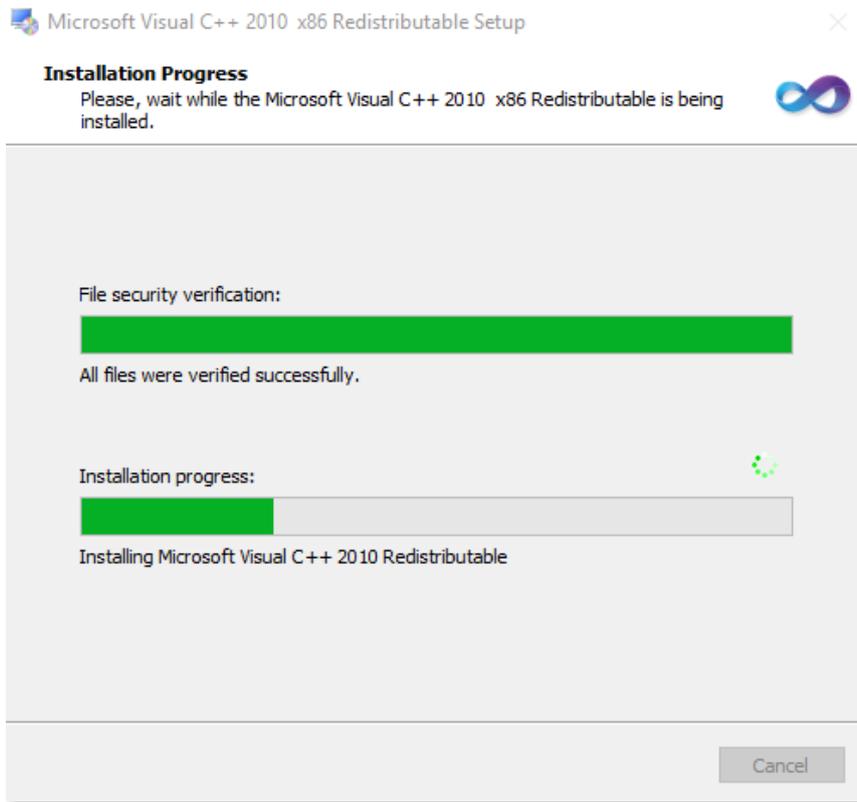


Figure 4: Microsoft Visual C++ Redistributable Installation Window

USB Driver Installation

During the installation of the USB drivers you may be prompted several times with a message as shown in *Figure 5*.

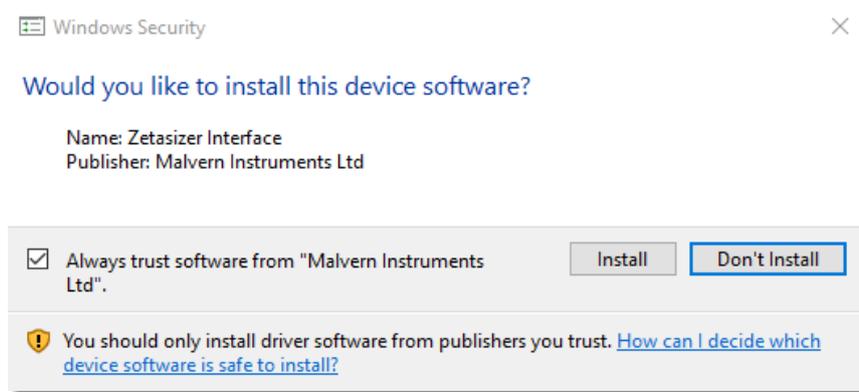


Figure 5: Install USB window

This warning can safely be ignored as the software installation has been fully tested on Windows 10. Press **Install** to continue installation of the USB drivers.

Connecting the Zetasizer to the computer

When the software has been installed and the instrument has been connected via the USB port, and switched on, the ZS XPLOERER software may need to upgrade the firmware on the Zetasizer, in which case the status icon on the lower right of the software screen will indicate such (see *Figure 6*).



Figure 6 instrument firmware updating status icon

Users should not disconnect or power off their PC or instrument during normal firmware updating. In some rare occasions the firmware may fail to update correctly, in such circumstances a notification will be displayed indicating the issue – please restart the instrument and software to reset and repeat the firmware upgrade process.

With the correct firmware version installed the Zetasizer should connect to the instrument. A successful connection is indicated with an icon in the corner of the software (see *Figure 7*) showing green and with a tick.



Figure 7: Instrument connected icon

Uninstall Procedure

The software can be uninstalled using the standard Apps & Features panel in Windows Settings.

Running the installer with the ZS XPLOER software running

If the installer is run whilst the software is running, the window in *Figure 8* will display.

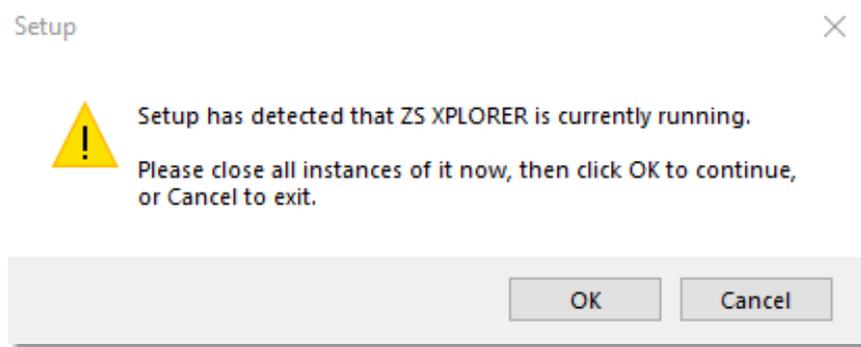


Figure 8: Running installer with software open

Connecting the MPT-3 Titrator to the PC

Ensure the computer is turned on and connected to a Zetasizer Advance system.

Connect the MPT-3 Autotitrator to the computer using the USB cable provided, ensuring that it is turned on. Click on the settings button in the top left corner of the ZS XPLOER software. See *Figure 9*.

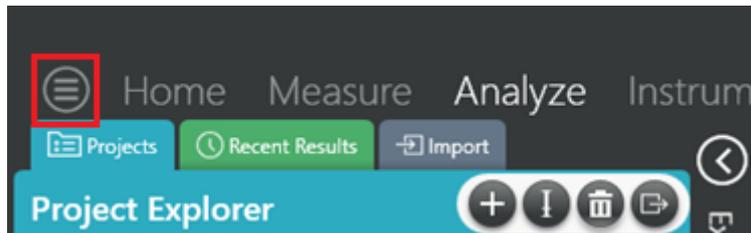


Figure 9 Software options

Click Options and navigate to the Titrator tab as seen in *Figure 10*.



Options

Folders **Titrator**

Connection settings

The titrator connection settings allow configuration of how the titrator connection is detected by the software.

Figure 10 Titrator options page

On the COM Port drop down menu, select USB Serial Port (COMXX) as shown in figure 8. (Note that the COM port number and description may vary). If the titrator has been detected on this port, then a green tick will be visible See *Figure 11*.

Folders **Titrator***

Connection settings

The titrator connection settings allow configuration of how the titrator connection is detected by the software.

COM Port: USB Serial Port (COM7)  **Titrator detected.**

Figure 11 Titrator successfully detected

If the titrator is not detected on the selected COM port, then a red exclamation icon will be displayed with a message. See *Figure 12*.

Connection settings

The titrator connection settings allow configuration of how the titrator connection is detected by the software.

COM Port: 

Figure 12 Unable to detect titrator

Once the titrator has been detected, click to save the settings.

Once the settings are saved an icon and a saved message will appear next to the saved COM port as shown in Figure 13.

Folders **Titrator**

Connection settings

The titrator connection settings allow configuration of how the titrator connection is detected by the software.

COM Port: 

Figure 13 COM port saved

The titrator icon at the bottom right of the screen should turn green indicating that the titrator is successfully connected as shown in Figure 14.



Figure 14 Titrator successfully connected

New Features

As ZS Xplorer 2.0.1 is a bug-fix release the main features from the version 2.00 release are included here as well.

Version 2.0.1 release

Bug fix: Changing sample details on locked methods

A bug has been fixed where the sample details were not honoured when a user had the ability to update a method restricted. This now works as intended.

Version 2.00

Size Averaging

Size results can now be averaged by selecting two or more size records and either using the in-context menu (right-click), figure 15 or from the toolbar on the Analyze workspace, figure 16.

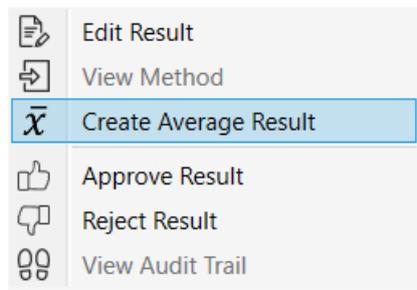
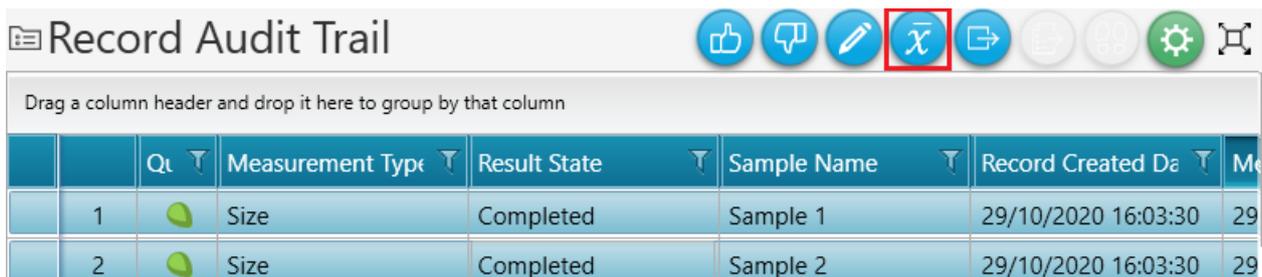


Figure 15 in-context menu create average result button.



The image shows a toolbar for 'Record Audit Trail' with several icons. The 'Create Average Result' icon, which is a blue circle containing a white mean symbol (x̄), is highlighted with a red box. Below the toolbar is a table with the following data:

	Qt	Measurement Type	Result State	Sample Name	Record Created Date	Me
1		Size	Completed	Sample 1	29/10/2020 16:03:30	29
2		Size	Completed	Sample 2	29/10/2020 16:03:30	29

Figure 16 Create average result button in toolbar

Please note that average size results are derived by averaging the raw correlation data and running the average correlogram through the appropriate analysis model. As such results selected for averaging are validated to ensure that they are similar enough in terms of analysis parameters to produce a meaningful average result. For instance, result

selections measured with different cell types or dispersant properties will disable the create average feature. A tooltip will warn the user if this is the case when hovering the mouse pointer over the Create average menu/button.

Extended Size Range analysis

A new General-purpose extended range analysis model has been added and is available to Zetasizer Lab and Ultra models when using the Low Volume Disposable Sizing Cell (ZSU1002). This new analysis model capitalizes on the physical properties of the Low volume capillary cell to provide more precise size distribution data in the range 2 to 10um and to **indicate** the presence of particles greater than 10um (to maximum of ~18um). Note that due to the likely occurrence of multiple scattering from particles above 10um particle sizes greater than 10um are indicative of the presence of particles greater than 10um **only** and results showing the presence of such particles should only be used for comparative purposes.

Shared storage settings (Materials, Dispersants and Reports)

Version 1.50 of ZS XPLOER introduced shared repository settings, these have been extended to encompass Dispersant, Materials and Report files/repositories to form a new combined “shared storage” option. This is provided to aid in using ZS Xplorer in a regulated environment and to make data backup easier. The option is accessible from the “Options” menu in ZS XPLOER (figure 17) and is strongly advised to be used for Installations of ZS XPLOER in a regulated environment or where data backup is required.

Options

Storage Titrator

Storage settings

Changing the storage settings alters where your projects, measurements, dispersants, materials and reports are stored.

- Shared storage common to all users on this PC
- Individual storage per user on this PC

Figure 17 Storage setting options

OmniTrust

ZS XPLOER v2.00 is the first release that supports Malvern Panalytical's new OmniTrust Compliance Management Software. Purchase of the software and associated license(s) are required to activate the Regulated Environment features of ZS XPLOER. As such the features shown below will not be available on a standard installation of ZS XPLOER.

Configurable access using OmniAccess

ZS Xplorer integrates with Malvern Panalytical's OmniTrust solution to provide a configurable role-based permissions system. Using the OmniAccess tool users can be given access to only the specific functionality required for performing their specific role.

Viewing System Audit Events with OmniTrail

ZS Xplorer integrates with OmniTrust to provide system wide logging and auditing of important events. Using the OmniTrail viewer application system logs from a single or multiple ZS XPLOER installations can be aggregated and viewed in a single place.

Record Audit Trail

The new Record Audit Trail allows for full auditing of record activity along with the user who performed those actions. The Record Audit Trail moves with the record which means it is available even when the record is transferred to another system. The audit trail "Is Valid" field also indicates if the record has been modified or tampered with. To access the record audit trail select the record and use the in-context menu (figure 18) or toolbar menu (figure 19) to view the record audit trail (figure 20).

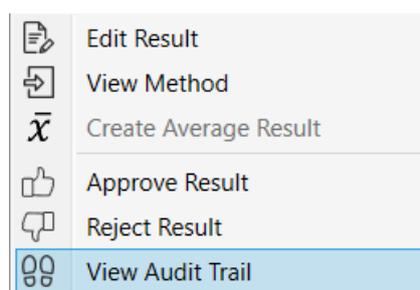
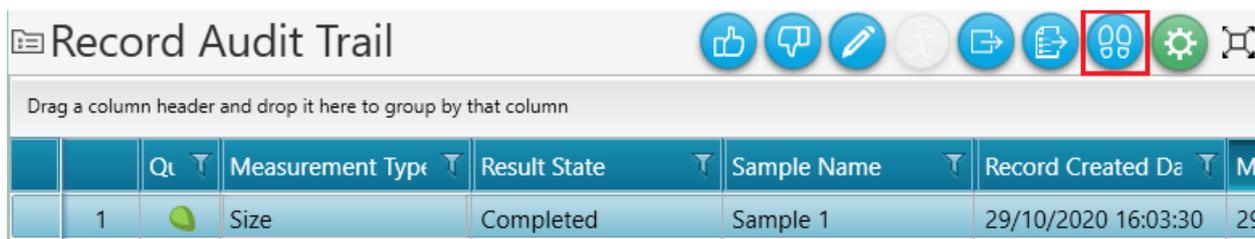


Figure 18 in-context menu for accessing the record audit trail



The toolbar menu for 'Record Audit Trail' includes icons for Approve, Reject, Edit, Print, Refresh, View Audit Trail (highlighted with a red box), Settings, and Full Screen. Below the toolbar is a table with the following data:

	Qt	Measurement Type	Result State	Sample Name	Record Created Date	M
1		Size	Completed	Sample 1	29/10/2020 16:03:30	29

Figure 19 View record audit trail button in toolbar menu

ZS XPLOER [Close]

 **Record Audit Trail**
The selected record audit trail.

Report format: 

Concerns record	C:/Users/Tester/Documents/Malvern Instruments/ZS XPLOER/Working File/ ZetasizerWorkingFile.db/Record Audit Trail/24e1d3ad-0536-4153- b8a3-1870da4b0791
Record identifier	24e1d3ad-0536-4153-b8a3-1870da4b0791
Record audit trail integrity	Valid
Record creation	Complete
Record data integrity	Valid

Created: 29/10/2020 16:03:31.080 +00:00 - Tester (Unrestricted)

System: DESKTOP-ODATPIA - ZS XPLOER 2.0

Figure 20 Record audit trail window

Record approval

Records can be approved or rejected from the record selector grid by either using the in-context menu or toolbar buttons (figures 21,22). The thumbs-up icon is for approval and thumbs-down icon for rejection. You will need the correct permission to perform approval and rejection. The record of approval or rejection can be viewed in the record audit trail (figure 23).

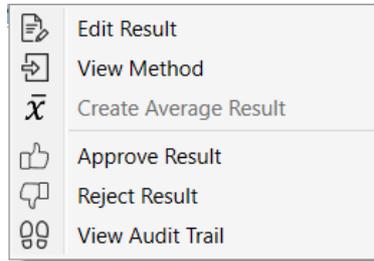


Figure 21 Record approval and rejection actions on the in-context menu

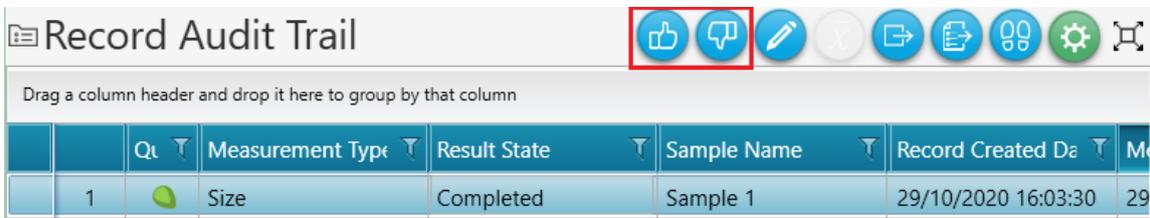


Figure 22 Record approval and rejection buttons on the toolbar.

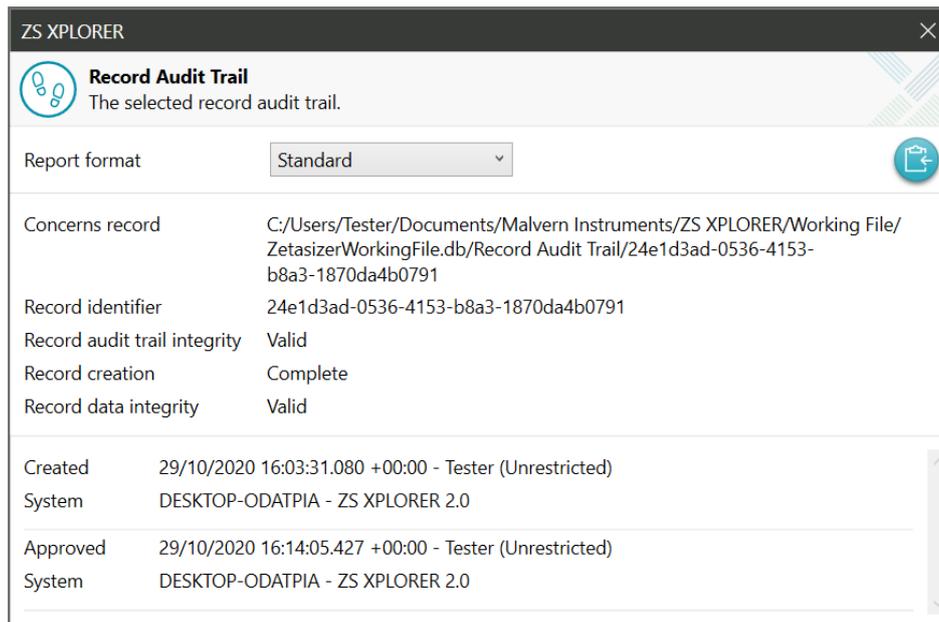


Figure 23 Approval action in record audit trail

Security Advisories

The following section details any security updates that have been addressed in this release, including fixes for identified vulnerabilities.



Note:

We always recommend updating to the latest software version which will provide you with new features, bugfixes and most importantly, security updates.



Note:

Other products may also be affected by any issue described here. We recommend you regularly check the Software Updates Notifications (SUNs) for all of your Malvern Panalytical products, and register on our website to receive updates.

Table 2 security advisories fixed in 2.0.1 ZS Xplorer

Reference	Description	Recommendation
HEN-572	Version 1.50 and earlier of the ZS XPLORER software contains a vulnerability in the reports feature which could allow an attacker to craft a malicious report file. Loading a malicious report file could result in arbitrary code execution. Version 2.00 introduces a fix to completely mitigate this vulnerability.	Upgrade to version 2.01 or later of the software. Never open files from an untrusted source, even if they appear to be non-executable.

Changes and fixed issues

The main changes and issues fixed in this release of the software are listed in table 3.

Table 3 changes and fixed issues in version 2.0.0 ZS Xplorer software

Reference	Issue	Type
BLE-1618	Measure - Stopping measurement with 1 measurement in Run Groups only stops the current group	Bug
BLE-1590	Create size analysis averaging algorithm in software	Story
BLE-1803	ZS Xplorer: TEMP folder and double reports present when locked down permissions added to reports folder	Bug
BLE-1998	ZS Xplorer: Crash when trying to cancel a size measurement	Bug
BLE-1931	ZS Xplorer: Authorization file must not be automatically redeployed	Bug
BLE-2192	ZS Xplorer - Hardcoded feature keys message in about page	Bug
BLE-344	Manual selection averaging for size	Story
BLE-502	ZS Xplorer: Enable Regulated Environment in default installation	Story
BLE-1735	ZS Xplorer: Update integrated help for regulated environment features	Story
HEN-541	Testing Instruments Models with Permissions/Roles	Story
HEN-540	Add dynamic X-axis graphing capabilities	Story

HEN-406	Implement Extended View General Purpose analysis model	Story
HEN-596	Copy method allows user to change measurement settings- ZS Xplorer	Bug
HEN-586	Editing results to have a non-zeta capable dispersant stops the method being opened from the result	Bug
HEN-613	ZS Xplorer software dlls should be signed	Story
HEN-629	Report files should be stored in a shared location	Story
HEN-626	Recent Result 'Date and Time' displays UTC regardless of DST and Local.	Bug
HEN-625	Remove Copy functionality from recent results view	Story
HEN-500	Measure - Incorrect tooltip used for disabled Save and Copy method	Bug
HEN-400	Stopping measurement - Pressing Cancel on abort dialog after measurement has finished will close the software	Bug
HEN-620	Update Upper Display Limit for Extended Size Range analysis model	Story
HEN-259	On the Home screen the 'Measure' box grows when Bookmarks are added	Bug
HEN-312	Measurement Created Date not Available in Record Grid	Bug

Known Issues

The following software bugs have been discovered within the software and will be investigated as part of a future release. Please follow the suggested work-around where they are provided.

Table 4: Known issues in ZS Xplorer version 2.0.1.

Reference	Severity	Issue	Workaround
BLE-2407	Major	The dates displayed for entries in the record audit trail report of a measurement result may be interpreted as ambiguous. The dates in the report are displayed according to the short date format configured on the PC.	To ensure dates are displayed unambiguously, change the short date setting on the PC to an unambiguous format.
HEN-377	Normal	Software locks up if you cancel a size measurement when setting up the instrument for different scattering positions	End the ZS Xplorer task to close the software and restart it.

Error Reporting

Should persistent problems occur contact the local Malvern Panalytical Helpdesk. To speed up response time include all the following.

A full-screen screen shot of any error message and everything behind it.

Full description of what was happening at time of issue and ideally leading up to it.

Instrument serial number (e.g. MAL1060289), instrument serial number can be found inside the sample cell basin and on the instrument back panel.

The software version, which can be found as described in a section below.

The log information described below.

And, if relevant and possible, export the relevant measurement data as described in the last section below.

Extracting log information

If an error occurs, further information about the error can be found from the Windows Event Viewer.

Click the Windows Start Button.

Type Event Viewer and press enter.

Navigate to Applications and Service Logs/Zetasizer All Events.

The window will display the most recent errors that have occurred with the ZS XPLOER software.

Error information can be selected and then exported with the Save selected Events button allowing this information to be passed to the Malvern Panalytical team for troubleshooting.

The contents of the measurement log window are logged to file at *Documents\Malvern Instruments\ZS XPLOER\logs*

Software version

The Software Version is vital to determining the cause of problems. To retrieve the version number:

Click on **Application Menu** button (*Figure 24*)

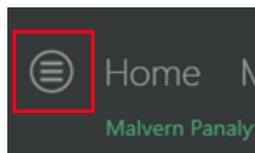


Figure 24 Application Menu button

Click on the **About** button

Read version number (Figure 25)

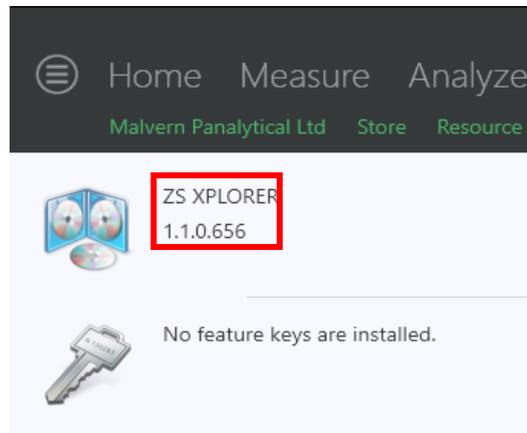


Figure 25 : Software Version Number

Extracting measurement data to send

In situations where the errors appear to be related to a specific record or records, the affected records can be exported from the software by selecting them and pressing the export icon, see Figure 26, and send the *.zmes file to the Malvern Panalytical team for investigation.

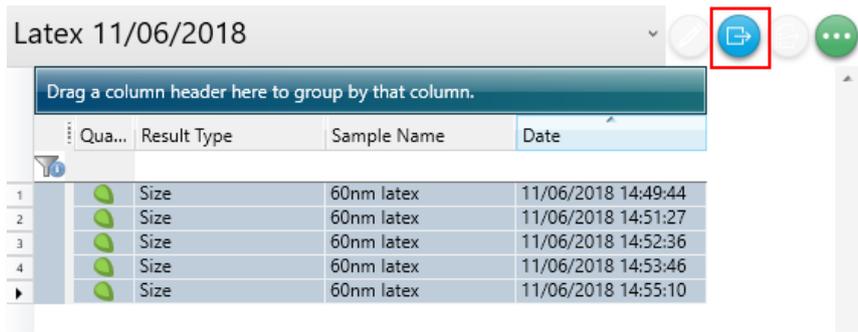


Figure 26 Exporting selected record

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