



**Release Notes**  
Life Technologies®  
Attune™ NxT Software v2.3

In the following pages you will find instructions describing:

New software features  
Known software/system issues with troubleshooting guidance  
Software Bugs that have been fixed  
Software installation instructions

Please note that it is critical for you (the customer) to review the installation instructions completely prior to installing or operating the Attune™ NxT Software Version 2.3

Installation instructions are included at the bottom of this document for your reference.

### **New software features implemented in Version 2.3**

- Area Scaling Factors are now applied from Performance Test (Advanced/System Settings)
- Import and Export of Workspaces
- Import and Export of Compensation Settings
- Multi-draw support for deep well plates
- User options to set Plot label display name (\$PnN vs. \$PnS)
- Implemented load instrument settings and workspace on New Experiment dialog
- Support for Blue, Red, Yellow (BRY) instruments

The following sections describe known issues with the Attune™ NxT v2.3 software. Where possible we have outlined steps to work-around the known issue.

**Guidance for Instrument Start Up and Performance Test using the Attune™ NxT v2.3 Software:**

- **Power on the auto sampler before the Attune™ NxT cytometer.** If you do not turn the auto sampler on prior to starting the instrument the auto sampler is not recognized properly.
- **If the instrument is in sleep mode after shutdown, close the software program completely prior to running start up**
- **Do not stop start up once it has been started.** If stopped you may encounter a blinking amber indicator light. If you accidentally stop start up, shut everything off and restart again.
- **Run performance test directly after launching the software application.** If you open an experiment and then run performance test you may experience a failure. Restart the software application and repeat performance test if this occurs.

**Guidance for Setting up an experiment using the Attune™ NxT v2.3 Software:**

Known issue (“Artifact”) ID Number	Description of Known Issue	Suggested Action
Artf53358	When adjusting the size of the polygon region on a plot using the bounding rectangle box, the region may not maintain their positions.	Polygon gates can be made smaller or larger by moving the individual points on the gate itself or by adjusting the bounding box and then adjusting the individual point that was not maintained.
Artf53507	If the experiment name, group, sample and parent gate are all displayed in a plot header, the hyperlink to set the parent population and gating hierarchy may not be visible on the plot.	If the names have too many characters, the plot title may not show the hyperlink. Decrease the length of the names to view the hyperlink or set the parent population by right-click within the plot to bring up a context menu where parent population may be selected. On customize menu, deselect experiment and or sample name to further shorten the plot title label.
Artf53424	When the plot type is changed using the right-click customize menu, the newly created plot will have the default scale of the previous plot.	If you change plot types using the customize menu, ensure that x-and y-axis scale ranges are set appropriately.
Artf56476	A plate experiment isn’t automatically active after it is created. The plate experiment is visible in the experiment explorer but is not the experiment viewed in the Attune desktop.	Double click on the new experiment to activate it, create samples or groups of samples on heat map tab, expand the group and double click to activate a sample to create a workspace, define the run and acquisition criteria, and create a workspace, run protocol, and acquire samples.
Artf56550	When creating experiments, Attune doesn't	Archive your data from your

	<p>check to see if it has enough disk space to create the necessary files.</p> <p>This results in missing files and XML load failures. If there isn't enough room to create the EE nodes, Error -1 is returned, and attempting to open any experiment that doesn't contain XML files, returns an undefined error</p>	<p>experiment explorer to free up disk space</p>
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**Guidance for using the Experiment Explorer and Instrument Settings panel within the Attune™ NxT v2.3 Software:**

- Target and Label Fields (ie CD4-FITC) are applied to plot axes but do not show up in statistics tables

Known issue ("Artifact") ID Number	Description of Known Issue	Suggested Action
1206	Experiments are limited to 400 samples; greater than 400 samples can cause software instability	If an experiment requires more than 400 samples, duplicate experiment for additional samples beyond 400.
EE-943	An ASF value of 0.1 is not persisted or applied to the instrument when entered in the system settings ASF edit boxes.	Do not use 0.1 as an ASF (area scaling factor) when making adjustments to the system instrument settings.
EE-961	When the "Automatically update Experiment IS" checkbox is unchecked, changing samples will revert the underlying logic to an enabled state.	To set the checkbox to the correct state, cycle through checking and unchecking.
EE-962	When importing a comp control while a regular sample containing data is activated (comp control just selected), the IS settings in the sample will be overwritten by those in the comp control.	When importing a compensation control, ensure the compensation workspace is active.

**Guidance for using Compensation within the Attune™ NxT v2.3 Software:**

- If you make an error in the compensation set up wizard and need to make changes, you must delete and then re-start the compensation set up process.
- The gate names on histogram plots within compensation samples are shown in large text and cannot be customized
- When using "on-plot" adjustment tools for large (>1 million) event files, response rate for adjustments will be slow.

Known issue ("Artifact") ID Number	Description of Known Issue	Suggested Action
Artf54564	Parameters that are deselected by the user will become re-enabled if the user switches between area and height measurements AFTER the parameters were deselected.	Ensure that the desired area or height parameter is selected prior to selecting parameters for compensation controls. If area or

		height measurement is changed, ensure that the correct parameters are selected prior to sample acquisition.
Artf54815	The HyperLog™ scale is not available for compensation control samples using the right click menu.	To set the axis of compensation controls using a HyperLog™ axis scale, adjust the axis scale using the customize panel.
Artf57907	Undoing the movement of a gate on a compensation control will not update the compensation matrix	Do not use the undo function when making adjustments to the gates or markers on the compensation workspace. Adjust the gates back to the previous position if necessary.
EE-987	When importing FCS files as compensation controls, a gate must be moved on the each compensation control to force the compensation matrix to reset. If this is not done, the view matrix button will remain disabled.	If the view matrix button is disabled, move any gate on each compensation control workspace to force the compensation matrix to fully calculate.

#### Guidance for Acquiring Samples using the Attune™ NxT v2.3 Software:

- At very high event rates on very large data collections, you may observe a slowing of the data update on the screen (~5 sec between updates). This is expected behavior and does not have any impact on the completion of the acquisition. To improve response rate, turn off auto-scaling or auto refresh functions.
- If any plot axes are set to auto-scale during acquisition, excessive CPU usage may occur resulting in a system wide performance lag. It is recommended that all plots are set to manual scale during acquisition for optimal system performance.
- Mixing in the auto sampler is limited to 2 or less mixes
- Keep the tube lifter in the DOWN position when using the auto sampler.
- For large data files especially on workspaces that have statistics boxes, software response may be slow if the workspace is modified during acquisition. When this occurs, a blue indicator spinning wheel will be visible. This is expected behavior and does not have any impact on the completion of acquisition. It is recommended that if you are acquiring large files, wait to make adjustments on the workspace until after the file has completed.
- If a buffer tank refill error is observed, check the focusing fluid filter and replace if necessary.

Known issue ("Artifact") ID Number	Description of Known Issue	Suggested Action
EE-688	The complete stop condition option for append does not work if stop condition is based on time or volume	Only use total events or gated events if you require to add data to existing data files
EE-790	When running a manual rinse from the instrument ribbon after stopping a plate from the instrument ribbon, the rinse is completed, but the application will appear stalled at 95%	Select the stop button again from the instrument ribbon to clear the issue.

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**Guidance for using the Experiment Workspace (Gates, Plots, Stats) within the Attune™ NxT v2.3 Software:**

- With large event files, there can be a slow response in between commands. Faster response rates can be achieved with fewer parameters selected and using a decreased number of plots and gates on workspace. Disabling the auto-refresh on home tab will also improve system performance.  
In order to be able to move gate names, make sure that gate names are small enough to display entire name on plot; Quadrant gate names can't be moved.

Known issue ("Artifact") ID Number	Description of Known Issue	Suggested Action
Artf55134	The time it takes to open the plot "Preview" panel is dependent upon the number of parameters enabled	Deselect unneeded parameters prior to opening "Preview" panel.
Artf57459	The buttons on the workspace toolbar are not active when a new plate node or experiment is activated	Define a group/sample and activate a well sample for the workspace tool bar to become active
EE-595	Nested derived gates (derived gates made from using other derived gates) cannot be used without typing out the full equation of the corresponding derived gate	Using the derived gate equation dialog, it is not possible to create a derived gate from an existing derived gate. This must be done manually using the expression editor to type out the full equation of the corresponding derived gate.
EE-677	If a quadrant color is changed and the quad gate name is changed, the color of the gate label changes to black.	Restart application to get quad gate labels to show with the color selected for that gate.

**Guidance for Data Analysis / Data Display using the Attune™ NxT v2.3 Software:**

- On the "Results" view, right clicking on a column header will display a list of statistics, some of which are not currently available. (i.e. cell cycle statistics)
- Data in the Results Table can be copied but the header row is NOT copied and must be entered into a secondary data analysis program such as Microsoft® Office Excel. (Note-header row will be copied if you use the send table to function on the statistics ribbon)
- The selection of stats in results view is global to all users and is not persisted with the experiment. (i.e. statistics selected to be displayed in the results table for one experiment will also be selected for other experiments)

**Guidance for Heat Map Analysis using the Attune™ NxT v2.3 Software:**

- If the heat map displays NA after acquiring a plate, the statistics may be out of date. To correct this, make a change to any attribute on any plot on the workspace (i.e. move gate, change name, change scale, add new plot etc.). This will force a refresh of the entire statistics.

**Guidance for Exporting/Importing using the Attune™ NxT v2.3 Software**

- When exporting FCS files from experiments that have experiment level compensation, you may be asked to update the compensation values in the exported file even though the compensation values have not changed. Select ignore or update.

Known issue (“Artifact”) ID Number	Description of Known Issue	Suggested Action
EE-962	When importing a comp control while a regular sample containing data is activated (comp control just selected), the IS settings in the sample will be overwritten by those in the comp control.	When importing a compensation control, ensure the compensation workspace is active.
EE-987	When importing FCS files as compensation controls, a gate must be moved on the each compensation control to force the compensation matrix to reset. If this is not done, the view matrix button will remain disabled.	If the view matrix button is disabled, move any gate on each compensation control workspace to force the compensation matrix to fully calculate.

**Guidance for Shut down or Maintenance features or using the Attune™ NxT v2.3 Software:**

- Self-test can become frozen if the USB is disconnected from the auto sampler or auto sampler is turned off during self-test. Do not turn off the auto sampler or remove any cables during operation of the instrument or while running maintenance functions (ie deep clean, shutdown...)

**Guidance for Setting up user accounts and user options using the Attune™ NxT v2.3 Software:**

- Email notification is not available in this version of software. Email address can be added but no notification is sent.
- After initial set up of a user account, the “Forgot password” option is available if security questions have been created. To set up security questions, log into new users account by entering user name and password. From the options window, select user management, select edit user, and select security questions. The user will be prompted to input three security questions and answers (note- they are case sensitive) If the user forgets their password, they can then click forgot password and it will ask them to answer two of the three questions and after answering correctly the software will prompt them to reset their password.

Known issue (“Artifact”) ID Number	Description of Known Issue	Suggested Action
EE-958	When viewing the permissions of a system admin in the user options dialog, the permissions list shows that the sys admin has all available permissions.	The only permission a sys admin has is “Manage User Accounts”. All other listed permissions are not applicable to a sys admin type account.

### Guidance for Using the System Log:

- System log entries are limited to 10,000 log entries. The entire set of system logs can be found in “\Users\Public\Documents\Life Technologies\AttuneNxT\Logs”

### Software Bugs Fixed In This Release

\* [EE-68] - Invalid gate equation seen when a gate name includes any number and any of the following symbols: “+/\*!&”

\* [EE-69] - Target and label edits notification icon is lost if user changes sample and reactivates sample

\* [EE-72] – Prevent Attune NxT Database Utility from running if Attune NxT is running

\* [EE-74] - \$BTIM (beginning time) and \$ETIM (ending time) are written backwards in the FCS file

\* [EE-77] – If Attune NxT syringe pump stalls, no UI notification is given so customer can be losing samples and not know

\* [EE-80] - When batch exporting FCS file if any group other than a single sample is chosen and Update header is selected the header for all Files will use \$FIL from the last sample in the grouping

\* [EE-93] - Bug: Sometimes \$ETIM not recorded or is 00:00:00

\* [EE-101] - Importing FCS file with embedded matrix into new experiment does not allow user to apply matrix to experiment

\* [EE-299] - When importing/exporting compensation XML, the instrument settings should also be included so that when importing compensation, the instrument settings are updated to match the comp settings for which they were created

\* [EE-534] - When choosing to update FCS keywords on export, the data keywords (ie BEGINDATA) are duplicated

\* [EE-75] - Application always initializes as a 4 laser system, so a user's settings for laser configuration do not persist across sessions

## **Installation Instructions:**

**System Requirements:** Quad core processor, 16 GB RAM, 500 GB disk space available. Windows 7 64 bit Professional with Service Pack 1.

**Note:** For either a new install or an upgrade, please remember to:

1. Setup the database (upgrade existing data or install new respectively)
2. Power cycle the instrument after completion of the firmware update

## **UPGRADE FROM v2.1 or v2.2 – Attune™ NxT Software v2.3 Installation**

### **Software Installation**

**Do not launch the software application until the completion of all the installation steps.**

**Step 1** Turn on the computer and cytometer (Restart both if they were previously on). Ensure that the Deskey device is plugged into the computer.

**Step 2** Log into Windows as an INSTR-ADMIN account and password: INSTR-ADMIN. This is the default administrator account. (Note: If your instrument is networked, please make sure that the administrator privileges have not been removed by your local IT department.)

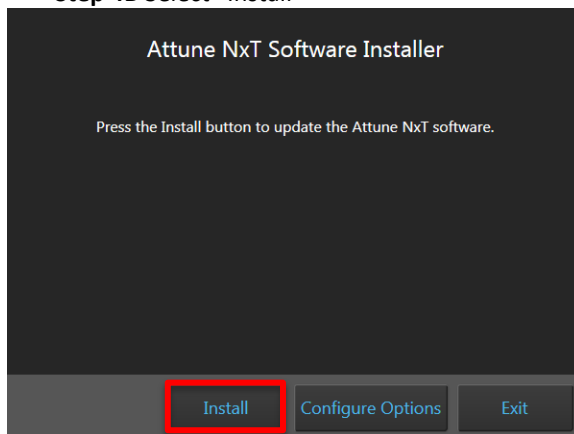
**Note:** Do not run any other applications while completing these steps.

**Step 3** Unzip (select “extract all files”) the AttuneNxTv2.3.zip

**Step 4** Install the software

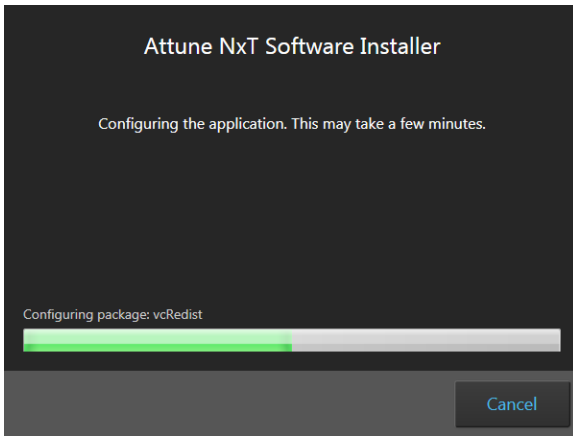
**Step 4A** Double-click “SetupAttuneNxT.exe” in the “Attune NxT\_Build 2.3.0.10023 folder.

**Step 4B** Select “Install”



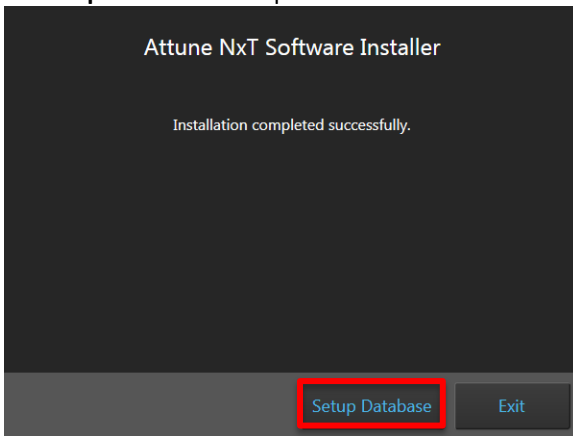
You will see a new window open as shown below showing progress of the software installation. If for any reason you select “Cancel”, start back at step 4 and re-run the “SetupAttuneNxT.exe”



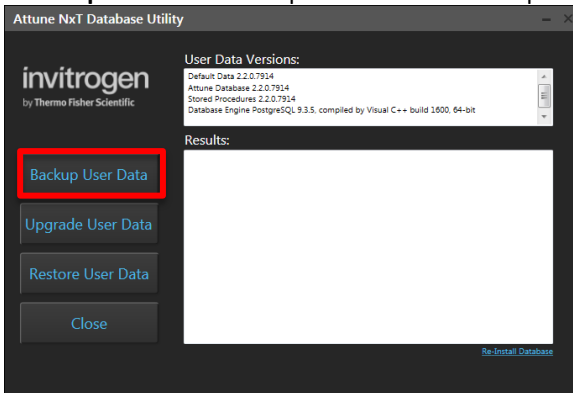


**Step 5** Setup the database

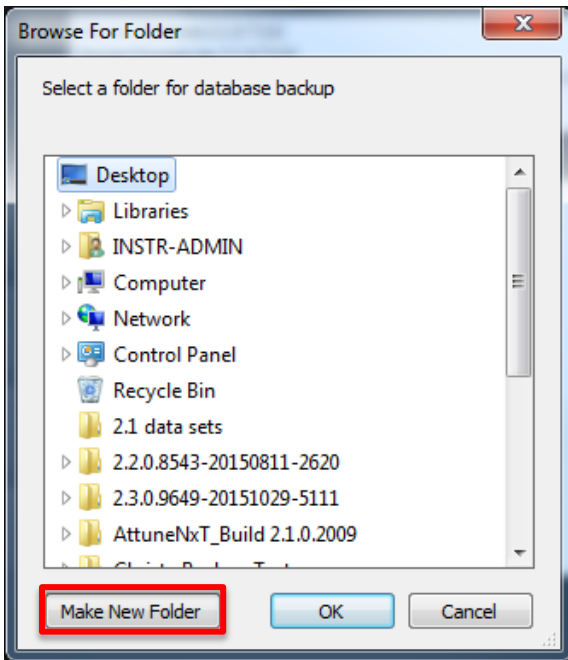
**Step 5A** Select "Setup Database" to launch the database utility application in a separate window.



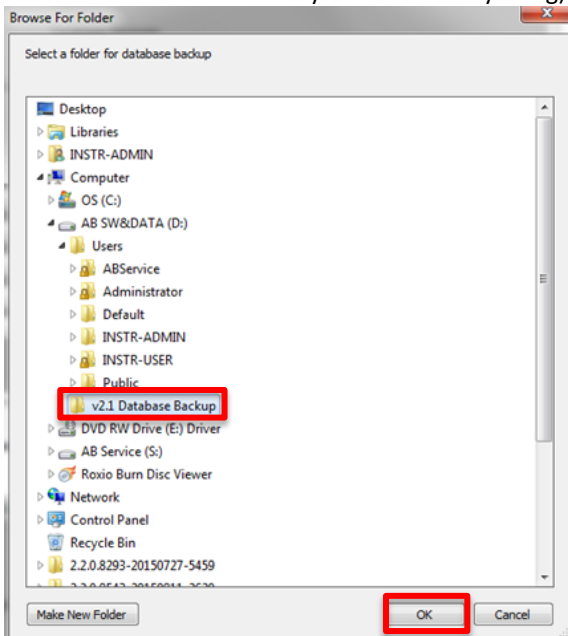
**Step 5B** Select "Backup User Data" to backup all data from the current version of software.



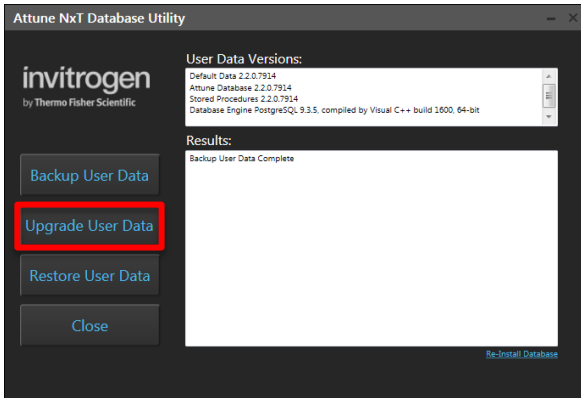
**Step 5C** Select the location to backup the user data by selecting "Make New Folder".



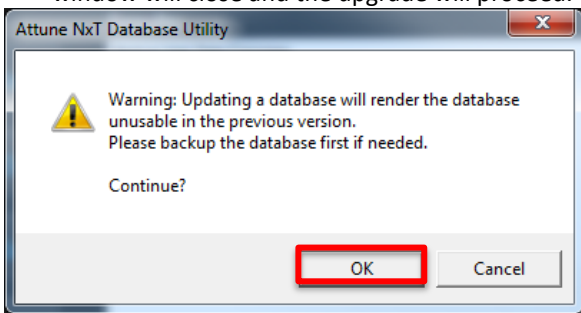
**Step 5D** Create a new folder on the D: drive and name it v2.2 Database Backup (or v2.1 depending on which software version you are currently using) and then select “OK”.



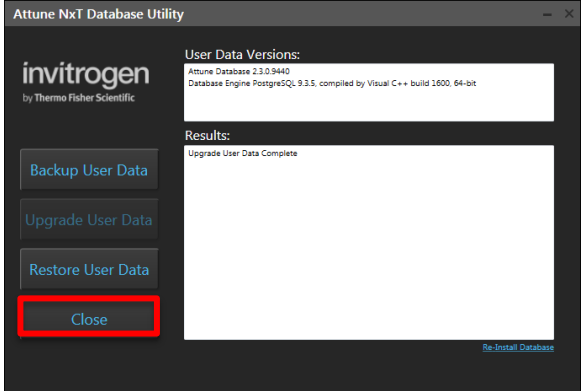
**Step 5E** Once notified that backup of user data is complete, select “Upgrade User Data”.



**Step 5F** Select “OK” on the resulting pop-up window as data has already been backed up. This window will close and the upgrade will proceed.

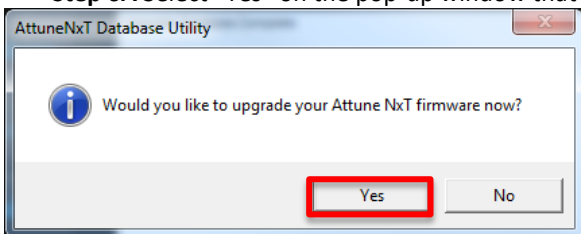


**Step 5G** Once notified that the user data upgrade is complete, select “Close”.



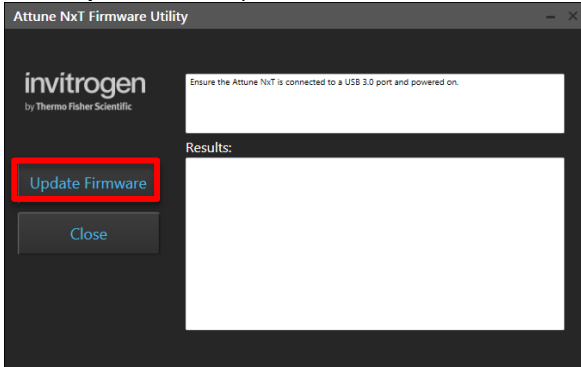
**Step 6** Update firmware

**Step 6A** Select “Yes” on the pop-up window that asks to upgrade the instrument firmware

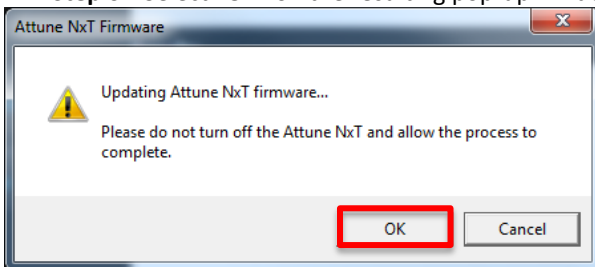


**Step 6B** The window above will close and the firmware utility will launch in a separate window. Ensure the instrument is connected and powered on and all programs are closed including Attune™ NxT software. Note: If software has been opened before running firmware updater turn off instrument and turn it back on before proceeding to next step.

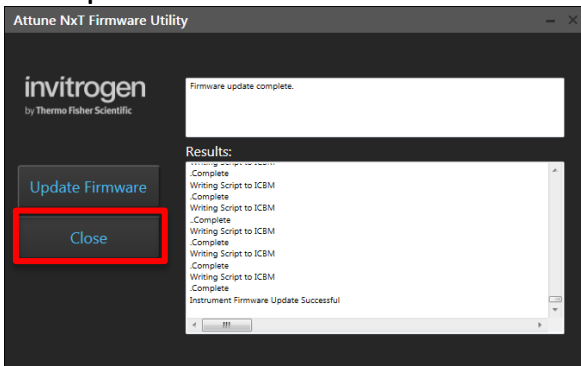
**Step 6C** Select “Update Firmware”



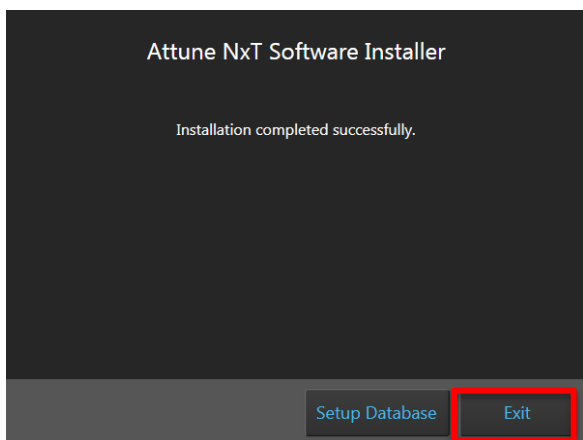
**Step 6D** Select “OK” on the resulting pop-up window (Note: This process can take several minutes).



**Step 6E** Once notified that the instrument firmware update was successful, select “Close”.



**Step 6F** Select “Exit” on the remaining installer window.



**Step 6G** Power cycle the Attune™ NxT instrument.

*Note: If you have an Attune™ auto sampler that is not currently powered on and wish to use it at this point, remember to turn on the auto sampler first prior to turning the Attune™ NxT instrument back on.*

Once the instrument is powered on, double-click the “Attune NxT Software” icon that has been created on the desktop to launch the application software.

## **UPGRADE FROM v2.0.1 or earlier - Attune™ NxT Software v2.3 Installation**

For customers that are currently using Attune™ NxT Software v2.0.1 or earlier, please contact technical support or your local field service engineer.

# NEW INSTALL – Attune™ NxT Software v2.3 Installation

## Software Installation

**Do not launch the software application until the completion of all the installation steps.**

**Leave the Attune™ NxT cytometer powered off until Step 5 (noted below)**

**Step 1** Turn on the computer.

**Step 2** Log into Windows as an INSTR-ADMIN account and password: INSTR-ADMIN. This is the default administrator account. (Note: If your instrument is networked, please make sure that the administrator privileges have not been removed by your local IT department.)

**Note: Do not run any other applications while completing these steps.**

**Step 3** Unzip (select “extract all files”) the AttuneNxTv2.3.zip

**Step 4** Open the USB3\_FOR NEW INSTALL, INSTALL ME FIRST folder

**Step 4A** Double-click the “RENESAS-USB3-Host-Driver-30230-setup.exe” file.

**Step 4B** Follow the instructions and accept the terms of agreement.

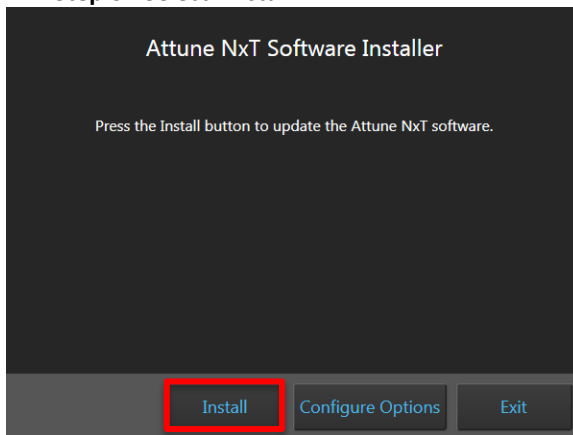
**Step 4C** Once complete, click “Finish”.

**Step 5** Plug in the Deskey device and power on the Attune™ NxT cytometer

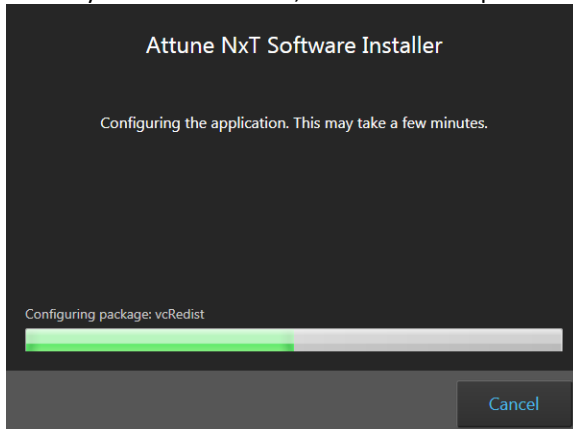
**Step 6** Install the software

**Step 6A** Double-click “SetupAttuneNxT.exe” in the “Attune NxT\_Build 2.3.0.10023 folder.

**Step 6B** Select “Install”

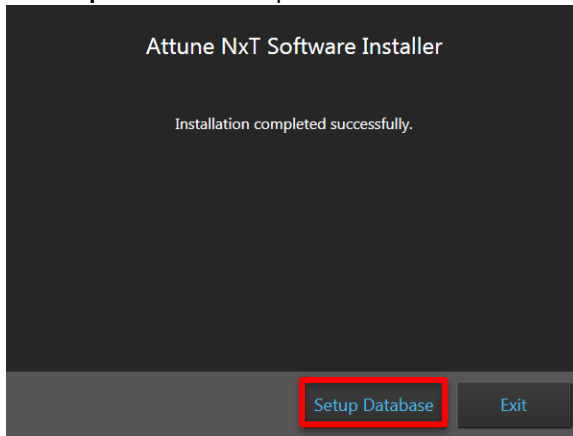


You will see a new window open as shown below showing progress of the software installation. If for any reason you select “Cancel”, start back at step 6 and re-run the “SetupAttuneNxT.exe”

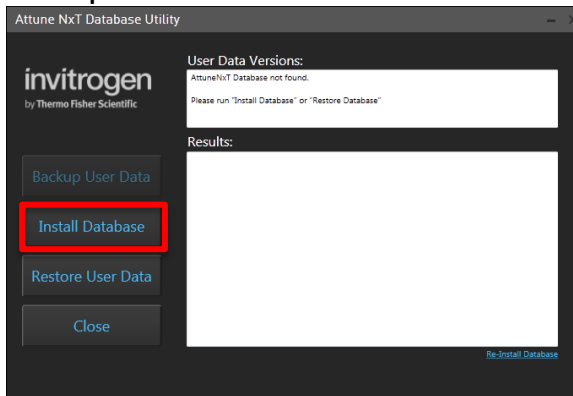


**Step 7** Setup the database

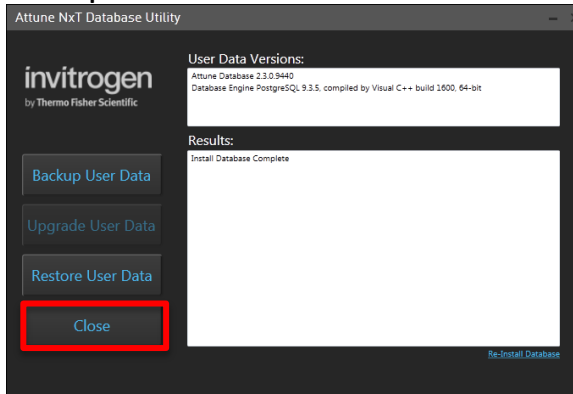
**Step 7A** Select “Setup Database” to launch the database utility application in a separate window.



**Step 7B** Select “Install Database”

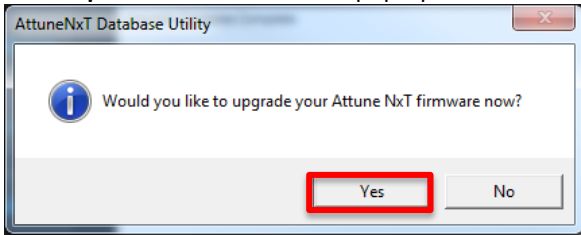


**Step 7C** Once notified that database installation is complete, select “Close”



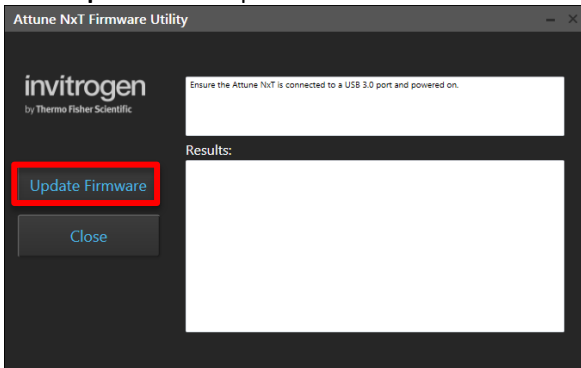
**Step 8 Update firmware**

**Step 8A** Select “Yes” on the pop-up window that asks to upgrade the instrument firmware

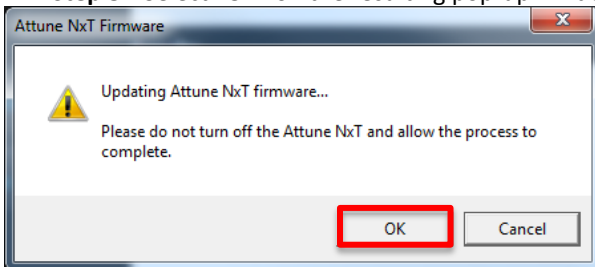


**Step 8B** The window above will close and the firmware utility will launch in a separate window. Ensure the instrument is connected and powered on and all programs are closed including Attune™ NxT software. Note: If software has been opened before running firmware updater turn off instrument and turn it back on before proceeding to next step.

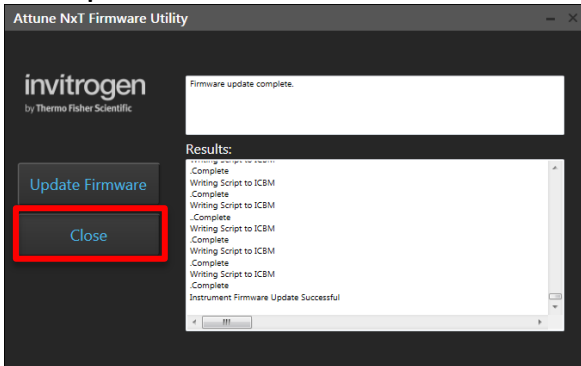
**Step 8C** Select “Update Firmware”



**Step 8D** Select “OK” on the resulting pop-up window (Note: This process can take several minutes).

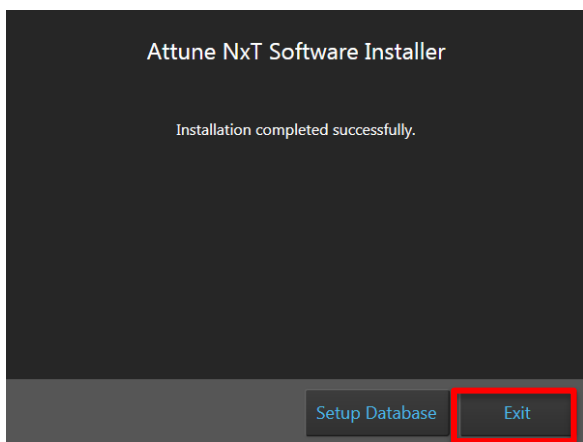


**Step 8E** Once notified that the instrument firmware update was successful, select “Close”.



**Step 8F** Select “Exit” on the remaining installer window.





**Step 8G** Power cycle the Attune™ NxT instrument.

*Note: If you have an Attune™ auto sampler that is not currently powered on and wish to use it at this point, remember to turn on the auto sampler first prior to turning the Attune™ NxT instrument back on.*

Once the instrument is powered on, double-click the “Attune NxT Software” icon that has been created on the desktop to launch the application software.