



**Waters**  
THE SCIENCE OF  
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# Columns Calculator Version 2.0 Driver

## Release Notes

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Revision A

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# General information

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# Columns Calculator version 2.0 Driver

The Columns Calculator enables you to scale a method by calculating operating parameters that give equivalent chromatographic performance. Use the Columns Calculator to quickly define methods that you can test further in the laboratory.

These release notes detail software and data-system requirements, installation notes, and known issues for the detector.

## Modules supported

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The Columns Calculator instrument driver supports the following module.

Module	Instrument driver software version
Columns Calculator	2.0.53.0

## System and software requirements

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You can install the Columns Calculator software on any stand-alone workstation or client/server environment supported by Empower software, version 3 and later, or MassLynx software, version 4.1 and later.

Additionally, you can install the Columns Calculator software on any personal computer with Windows 7 32-bit or Windows 7 64-bit operating systems, while logged in as a local administrator.

**Note:** The Columns Calculator was not tested with UNIFI software.

## Installing instrument drivers

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Download the Columns Calculator from [www.waters.com](http://www.waters.com). The deployment manager steps you through installation.

## Installing the Columns Calculator software

### To install Columns Calculator software:

1. Exit all applications, and restart the computer.
2. Log on as a local administrator.
3. Uninstall any previous version of this software.

**Requirement:** If software for this module was installed previously, you must uninstall it before proceeding.

- a. From the Windows **Start** menu, select **Control Panel**.
- b. Select the uninstall command, for example, **Programs and Features** or **Add/Remove Programs**.
- c. Right-click the program name, and then select **Uninstall/Change**.

**Result:** The deployment manager Maintenance Mode: Instrument Drivers page opens.

- d. Click **Custom**.
  - e. Ensure the correct program is selected, and then click **Next** twice.
  - f. Click **Finish**, and then restart the computer.
4. Download the driver.
    - a. Navigate to the download page on [www.waters.com](http://www.waters.com).
    - b. Click on **Columns Calculator 2.0 Driver**.
    - c. Scroll to the bottom, and click on the executable file.
    - d. Select **Save as**, and save the EXE file to your desktop.
  5. On your desktop, double-click **Columns\_Calculator\_v2\_0.exe** and select **Install**.

**Result:** The Setup.exe file and a Columns Calculator folder appears on your desktop, and the deployment manager opens.

6. On the deployment manager Welcome page, click **Next**.
7. Click **Install/Upgrade**.
8. Select **I have read the product release notes**, and then click **Next**.
9. Select **I agree to the License terms and conditions**, and then click **Next**.
10. Select **Typical (recommended)**.
11. Click **Next**, to start the installation and deployment operation.
12. Click **Finish**.
13. Restart the computer.

**Result:** Software is installed in C:\Empower\Instruments.

## Viewing the installation log

If the installation is partial or otherwise unsuccessful, review the installation log for errors. The log includes your installation choices, environment, and status.

### To view the installation log:

1. Navigate to `C:\Windows\WatersICS.log`.
2. Open `WatersICS.log` in a text editor, such as Notepad or WordPad.
3. Review the contents of the file.

**Tip:** If the `Installation success or error status` value at the end of the installation log is zero, the installation was successful.

**Tip:** Before contacting Waters Technical Support, record the `Installation success or error status` value and the instrument's serial number, and have them available.

4. To close the log file, from the **File** menu, select **Exit**.

## Using the Repair utility

The Repair utility corrects known installation and compatibility problems involving installation artifacts caused by nonstandard installers or older Waters instrument-control software.

### To use the Repair utility:

1. Insert the instrument driver DVD into the drive.
2. Navigate to the DVD drive, and run `Setup.exe`.
3. On the deployment manager Welcome page, click **Next**.
4. Click **Repair**.

## Removing instrument-control software

### To remove the instrument-control software:

1. Exit all applications, and restart the computer.
2. Insert the driver pack DVD into the drive.
3. Navigate to the DVD drive, and run `Setup.exe`.
4. On the Deployment Manager Welcome page, click **Next**.
5. Click **Remove**.

6. To remove instrument-control software for all modules, do as follows:
  - a. Click **Typical**.
  - b. To prevent the removal of Connections INSIGHT, clear **Remove Connections INSIGHT**, and then click **OK**.
  - c. Review the list of modules, and then click **Next**, to remove the instrument drivers.
7. To remove instrument-control software for selected modules, do as follows:
  - a. Click **Custom**.
  - b. Select the modules, and then click **Next**.
  - c. Review the list of modules, and then click **Next**, to remove the selected instrument drivers.
8. Click **Finish**.
9. When prompted to restart the computer, click **Yes**.

## Known issues in this release

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This section lists the known issues and workarounds for this release. The numbers identify software issues that Waters personnel monitor within a system change request tracking tool.

### 33762

If you specify a very small injection volume in the original method,  $\leq 0.7 \mu\text{L}$ , the Columns Calculator calculates 0.0  $\mu\text{L}$  for the target method injection volume.

### 34048

When you install the Columns Calculator version 2.0 driver on a LAC/E module that has Columns Calculator version 1.6 loaded, the icon image on the desktop does not update on all user desktops.

**Work-around:** Use either the new icon  or the old icon  to open Columns Calculator version 2.0.

### 34079

You cannot copy and paste a method from the Columns Calculator to the e2695 Separations Module method editor.

**Work-around:** To copy a method to an e2695 Separations Module, type each line.

## 34119

After installation, the following message is recorded in the Empower Installation Log file: `Error 1009. Failed to convert assembly to work on a 64-bit system. Unknown error.` You can disregard this message. The Columns Calculator program functions properly on a 64-bit operating system.

## 34184

**Restriction:** Microscale method transfer calculations are not recommended, as the Columns Calculator does not support method values with sufficient significant figures.

The Columns Calculator supports dimensions for method parameters that are appropriate for analytical chromatography. However, in microscale chromatography, the equivalent unit values are much smaller, that is columns < 1 mm and flow rates < 0.001 mL/min.

## 34299

The Columns Calculator application does not resize properly at certain size and screen resolution combinations.

**Work-around:** Follow the procedure below to specify a recommended screen resolution.

### To specify a screen resolution:

1. If necessary, close Empower or MassLynx software.
2. From the **Start** menu, click **Control Panel**.
3. Click **Display**.
4. If necessary, to adjust the size of items on the screen, select **Smaller**, **Medium**, or **Larger**, and then click **Apply**.
5. Click **Adjust Resolution**.
6. In the Resolution field, specify a recommended value from the table below.

**Table 1–1: Recommended screen resolutions for display of Columns Calculator**

Display setting	Recommended resolution
Smaller - 100% (default)	≥1024 × 768
Medium - 125%	≥1600 × 1200
Larger - 150%	≥1920 × 1200



## Compliance recommendations

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Any time you install, change, or uninstall software or system modules in a regulated environment, Waters recommends that you follow your organization's approved standard operating procedures.

A risk-based review may assist you in a regulated environment to evaluate changes detailed in the release notes. Using company SOPs, determine if any documentation updates and requalification of the system modules, chromatographic system, or chromatographic data system (CDS) are required.

### Instrument update classification (minor update)

Waters considers this update to be a minor change from previous versions. This update is designed to not alter the physical specifications of instruments or systems. Waters expects that methods run and data generated on instruments before and after the update will be consistent. As with any change, you should evaluate the impact of this update to your instruments or systems.

### Software requalification options

Consider using the requalification options outlined below to verify software installation and correct operation:

- To confirm that the new files loaded properly, consider performing a software installation qualification.
- To confirm the operation of the newly loaded software, consider performing an operational qualification (user or vendor) for the updated software installation.
- To determine if additional testing is required, consider evaluating the changes in the software release, to assess the risk associated with the installation. Depending on the risk, it may be appropriate to perform existing, updated, or new software tests. These tests may be known as performance qualification tests, user acceptance tests, verification tests, or validation tests.

To assist you, if required, Waters provides various levels of Qualification (or Compliance) Services and validation consultancy through our Professional Services organization.

When multiple, identical systems are involved, consider a risk-based approach to qualification activities.

### Instrument requalification options after software/firmware change

Consider using the requalification options outlined below to verify hardware installation and correct instrument operation:

- To confirm that the firmware files on the system modules were installed correctly, compare the checksum values in the product release notes to the checksum values displayed in the console.
- To confirm instrument system operation with any newly loaded software, driver, or firmware, consider performing an operational qualification for the updated instrument system.
- To confirm performance, control, and communications of the instrument system, consider conducting a performance qualification (user or vendor) or system suitability test.

When multiple, identical instruments are involved, consider a risk-based approach to qualification activities.

## Requalification with Waters' Total Assurance Plans

The Waters' Total Assurance Plan (TAP) with System Qualification Option covers upgrades and requalification of the instrument driver, software, firmware, or hardware in these cases:

- During yearly requalification, as provided in the plan.
- If installing this release is required for operation of a new module or system, where qualification of the new module or system is covered by the plan.

Requalification of the CDS software and computers after a driver upgrade may or may not be included in your TAP.

Review your TAP to determine which services are covered and which are not covered. For situations not covered by the plan, Waters can perform the qualification, but additional charges will apply.