Waters® Breeze™ 2

Read these release notes before you install and operate Breeze 2. They contain information necessary to ensure successful liquid chromatography results, including:

- Breeze 2 overview

- Waters Software License Management System

- Known issues in Breeze 2

- Test configurations used to develop and evaluate Breeze 2

- The Breeze 2 default project

For additional information, see these documents on the Breeze 2 software DVD:

- *Breeze 2 Installation and Configuration Guide*, Revision A - Contains information on minimum system and software requirements, and detailed instructions for installing, configuring, and administering Breeze 2 software.

- *Waters Ethernet Instrument Getting Started Guide*, Revision D - Contains additional information on installing and configuring your chromatographic system.

- Breeze 2 online Help - Contains instructions for using Breeze 2 software.

Breeze 2 overview

Breeze 2 is a software application you use to acquire, process, analyze, and manage chromatographic data collected from Waters HPLC devices. Breeze 2 software runs on the Windows Vista Business Service Pack 1 operating system and employs an Oracle database. English, Chinese, and Korean interfaces are available.

Breeze 2 is compatible with a wide variety of HPLC devices, including binary and isocratic pumps, automated and manual injectors, and UV, refractive index, and fluorescence detectors. Breeze 2 currently supports these devices via Ethernet communication:

Pumps and Pump Accessories	Waters 1515 Isocratic HPLC Pump Waters 1525 Binary HPLC Pump Waters 1525µ Binary HPLC Pump Waters 1525EF Binary HPLC Pump Waters 1500-series column heater Waters Pump Control Module II (PCMII)
Autosampler	Waters 2707 Autosampler
Detectors	Waters 2414 Refractive Index (RI) Detector Waters 2420 Evaporative Light Scattering (ELS) Detector Waters 2424 Evaporative Light Scattering (ELS) Detector

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Detectors (*continued*)	Waters 2475 Multi λ Fluorescence Detector
	Waters 2489 UV/Visible Detector
	Waters 2998 Photodiode Array (PDA) Detector
Accessories	Waters Temperature Control Module II (TCMII)
Communication Devices	Waters e-SAT/IN Module

Breeze 2 software controls most Ethernet devices using Waters instrument control software, which you load during the Breeze 2 software installation. Consult your Waters Service Representative or check www.waters.com for the latest instrument control software.

Breeze 2 software directly controls Waters 1500-series pumps via Ethernet communication. You do not need to install an instrument control software driver for 1500-series pumps.

Breeze 2 currently supports these devices via IEEE communication:

Pumps and Pump Accessories	Waters 515 HPLC Pump
	Waters 1500-series pumps
	Waters 1500-series column heater
	Waters Pump Control Module (PCM and PCMII)
Autosampler	Waters 717plus Autosampler
Detectors	Waters 2410 Refractive Index (RI) Detector (appears as 410)
	Waters 2487 Dual λ Absorbance Detector
Accessories	Waters Temperature Control Module (TCM and TCMII)
Communication Devices	Waters Bus SAT/IN Module

Waters Software License Management System

Breeze 2 installations use the Waters Software License Management System to register, activate, deactivate, and view Waters software licenses.

The activation process involves these general steps:

- Starting the Waters Licensing Wizard.

- Following the wizard to request and create a software registration file.

- Accessing the web to submit the software registration file and to receive a license activation file.

- Using the Waters Licensing Wizard to submit the license activation file and activate your licenses.

You must use the Waters License Management System to register and activate your Breeze 2 license. Key disks are not available for Breeze 2.

For details and instructions on using the Waters Licensing Wizard, see the *Breeze 2 Installation and Configuration Guide*, Revision A, on the Breeze 2 DVD.

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Known issues in Breeze 2

The following table lists issues known to exist in the Breeze 2 software at the time of release. The Product Change System (PCS) numbers help Waters personnel monitor software issues.

Installation
When installing Breeze 2, a Windows Security Alert indicating that Windows Firewall has blocked some features of the installation program may appear, depending on your PC's security settings. **Resolution:** Click Unblock to continue the installation. **PCS number:** 44080
Your Breeze 2 Total Assurance Plan ID number may not appear in the checksum.txt file after running the Breeze 2 Verify Files utility, even if you entered the number during installation. **Resolution:** Follow these steps to manually enter your Total Assurance Plan ID number: 1. Start Breeze 2. 2. Click Help > About Breeze 2. 3. In the About Breeze 2 dialog box, click Alter User Info. 4. Enter your ten-digit Total Assurance Plan ID number. 5. Click OK to close the User Information dialog box. 6. Click OK to close the About Breeze 2 dialog box. Breeze 2 saves the Total Assurance Plan ID number, which appears in the checksum.txt file the next time you verify files. **PCS number:** 44216
Instrument operation
On systems with a 1500-series pump, gradient methods may not function properly when acquiring a sample set that contains multiple injections on a single line. This occurs when the gradient table run time exceeds the injection run time. **Workaround:** Ensure that the gradient table run time does not exceed the run time of any injection. **Resolution:** Upgrade the 1500-series firmware to version 3.00.11. Contact your Waters Service Representative, or obtain the latest firmware by accessing www.waters.com, and then clicking Products > LC > HPLC Solvent Management. In the left pane, click 1500 Series HPLC Pumps, and then click the link for your specific pump. When the page for your pump appears, click the support tab, and then click Downloads to view the list of available firmware. **PCS number:** 43788
The busLAC/E status information shown on the Node Properties dialog box General tab may incorrectly indicate that the busLAC/E driver is not loaded. **Resolution:** If your chromatographic system is Ethernet-based, the busLAC/E is not required, and you can ignore this message. If your chromatographic system uses busLAC/E control, ensure the busLAC/E driver is installed and configured as described in the *Breeze 2 Installation and Configuration Guide*. **PCS number:** 43854

Instrument operation (continued)

The 2707 Autosampler loses communication with Breeze 2 when a shutdown method is run. Individual instrument control panels and toolbars may continue to function correctly, but the method setup, monitor/equilibrate, and acquisition features may not function properly.

This does not compromise the data acquired in the sample set; the sample set successfully runs to completion.

Recovery: Shut down, and then restart the Breeze 2 system. Consult the "Powering-on the system" section of the *Breeze 2 Installation and Configuration Guide* for details about restarting the system.

Workaround:

- Do not include shutdown methods in sample sets if your system includes a 2707 Autosampler.
- Insert additional lines containing shutdown parameters in the instrument method used for injections. The start times for these additional lines must be greater than the injection run time.

PCS number: 43909

Error messages generated by the 2707 Autosampler may continually cause the Message Center icon in the System Tray to turn red, even when no new errors have occurred.

Workaround: Open the Message Center, and then purge the messages by clicking View > Properties > Purge tab. For details, see "Purging Messages from the Database" in the Breeze 2 online Help.

PCS number: 43929

On Breeze 2 systems with a 2707 Autosampler, the "Abort and continue on next injection" function does not work.

Workaround: Abort an injection immediately, or at the end of the injection, and then manually start the sample set at the same or the next line.

PCS number: 43995

The 2707 Autosampler cannot locate vials when a 10-mL vial plate is used in conjunction with another plate type. This behavior occurs only with the 10-mL vial plate; you can mix other plate types.

This behavior occurs only when the 2707 Autosampler is used in prep mode. Because the instrument assumes that the entire bed (2 plates) consists of 10-mL prep plates, it cannot accommodate other plate types.

Caution: If you switch from the 48-vial, 2-mL plate to the 12-vial, 10-mL plate, reset the 2707 before switching the plate type. Otherwise, the sample needle will be damaged.

Workaround: If your system includes a 2707 Autosampler, use only the 12-vial, 10-mL plates in prep mode. The bed must be loaded with two 10-mL vial plates. Do not configure 10-mL vial plates in combination with any other plate type.

PCS number: 44094

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Instrument operation (continued)

The 2707 Autosampler Sys Prep and Wash Needle functions act unpredictably. In some cases, these functions cause an instrument failure; in some cases the sample set successfully runs to completion.

Workaround: Do not use the 2707 Sys Prep and Wash Needle functions in Breeze 2. The Wash Needle function is rarely necessary, because the 2707 washes the needle after each injection. You can also program the 2707 to wash the needle before executing a sample set by selecting the check box in the method editor.

PCS number: 44148

Manage the pump head configuration for the 1500-series pumps using the Breeze 2 software, regardless of the jumper setting at the J9 position on the 1500-series pump personality board.

To configure the 1500-series pump in Breeze 2, click Manage > Systems > Node Properties > Instruments tab > Optional Pump Head field.

PCS number: 44235

When a 1525μ or 1525EF is connected via Ethernet, the Flow/Pressure toolbar in Run Samples may display Flow C information, even though no pump C is present.

No corrective action is necessary. This does not affect the Flow A and Flow B controls or compromise data acquisition.

PCS number: 44391, 44394

Instrument control software

The installation log does not show the instrument control software installed.

Workaround: To verify which instrument control software modules are installed, open the Windows Control Panel, click Programs > Programs and Features, and check the list of installed programs.

PCS number: 43923

When you install instrument control software, the system creates an "Empower" shortcut in the Breeze 2 program group (in the Windows Start menu).

No corrective action is necessary. This is normal behavior, because the instrument control software used for Breeze 2 is compatible with all Waters chromatographic data systems. This does not affect the operation of instruments with Breeze 2.

PCS number: 43998

If you attempt to uninstall Breeze 2 before uninstalling instrument control software, a message warning you to first uninstall the instrument control software appears. This message refers to the Windows "Add/Remove programs" feature, which does not exist in Vista.

Workaround: Use the Windows Vista "Uninstall a program" feature to uninstall instrument control software (use Programs and Features if your PC is set to use Classic view).

PCS number: 44006, 44214

Instrument control software (continued)

"Empower" and "ACQUITY" may appear during the instrument control software installation, in the Breeze 2 software interface, in the Start menu, and in the Breeze 2 online Help after the instrument control software is installed.

This is normal behavior, because the instrument control software used for Breeze 2 is compatible with all Waters chromatographic data systems. The "Empower" or "ACQUITY" label does not interfere with the correct operation of the instrument control software with Breeze 2.

Although the associated instrument control software online Help files (accessible from the Instrument Method editor by pressing F1) do not explicitly address Breeze 2, their information is still relevant. When a Help topic includes instructions for both Empower and MassLynx software, follow the Empower instructions.

PCS number: 44111, 44366

When a PCMII is connected via Ethernet, the instrument appears at its IP address in DHCP Configuration, but the instrument type field is blank and Breeze 2 does not recognize the device.

Resolution: The PCMII firmware must be updated. Contact your Waters Service Representative to obtain the correct firmware.

PCS number: 44360

The 2420 does not communicate with or cannot be correctly controlled from Breeze 2. This behavior occurs when version 1.00.1057 of the 2420 ICOP is installed.

Resolution: Remove the version 100.1057 ICOP and install the Waters ELS Detector ICOP version 1.30.1565. This ICOP controls both the 2424 and 2420 ELS detectors.

PCS number: 44365

The 2475 does not communicate with or cannot be correctly controlled from Breeze 2. This behavior occurs when an out-of-date version of the 2475 firmware is installed.

The 2475 is compatible with Breeze 2 only when the v.2.02 firmware is installed. This firmware resides in the W2707 ICOP folder.

Resolution: Install the 2707 ICOP after installing the 2475 ICOP. This overwrites the 2475 firmware with the latest version, thus ensuring that the 2475 functions correctly with Breeze 2.

The firmware is not installed on the detector until you run either *loader.exe* or *autoloader.exe*. These programs scan the instruments and indicate whether their firmware is up to date. If the incorrect firmware is installed, you can select and install the desired firmware.

PCS number: 44367

Data acquisition

The system may start an injection before the column heater reaches the desired temperature.

This occurs when running a sample set containing two or more method sets with different column heater temperature settings. When the injection at the initial temperature setting is complete, the system immediately starts the next injection, regardless of whether the second programmed temperature has been reached.

Workaround: When you create a sample set that includes injections at multiple temperatures, include an "Equilibrate" line in the sample set method before each temperature change. This ensures that the column is equilibrated at the desired temperature before the injection.

PCS number: 44081

The Data Start function does not work in Breeze 2. Breeze 2 ignores the Data Start value entered in the Run Samples window, and the real data starts at time zero. Review displays a Data Start time of -0.0 for all injections, regardless of whether a Data Start time was specified.

PCS number: 44117

Data exporting

The Send option may not appear in the File menu when you attempt to email data from the Breeze 2 Preview window. The availability of this option is controlled by a setting in the Windows Vista win.ini file.

Resolution: To ensure the Send option appears in the Breeze 2 File menu:

1. Click Start > Computer.

2. Browse to the C:\Windows folder.

3. Right-click the win.ini file and click Open With > Notepad.

4. Add the following text to the win.ini file:

   [Mail]

   MAPI=1

5. Save and close the file.

6. Restart your PC, then restart Breeze 2.

PCS number: 44257

Before exporting data from the Breeze 2 default project, you must create the default export directory:

   C:\Breeze2ExportedData

Alternatively, you can override the default export directory when you select export parameters. See "Exporting Breeze data files" in the Breeze 2 online Help for details.

PCS number: 44140

Data exporting (continued)

When simultaneously exporting multiple results from Breeze 2, it may be difficult to correlate the exported files to the results because the exported file names do not contain unique identifying information. However, within each exported file, the sample name, vial number, and injection number are documented for each injection. The exported files use these delimiters to separate data:
 	
      Column: tab
 	
      Row: carriage return
 	
      Text: " " (double quotation mark)
 	
Workaround: Export single data so that you can match your results to the exported files.
 	
PCS number: 44150

The Breeze 2 processing server may fail when background processing is performed in conjunction with exporting. The Breeze 2 software continues to function, but the data is not processed or exported. **Resolution:** Reboot the Breeze 2 workstation, reprocess the data, and then export the data separately. **PCS number:** 44240
Data reporting
In the Chinese and Korean versions of Breeze 2, selecting "Use a report method that was generated to be appropriate for the selected data" in the Open Report Method window produces a report in English. This does not adversely affect the operation of the Preview function or alter the data reported. **PCS number:** 44147

Test configurations used to develop and evaluate Breeze 2

The following Windows Vista Business Service Pack 1 test configurations were used during the development and evaluation of Breeze 2.

KB935509 KB937287 KB938371 KB938464 KB941693 KB948590 KB950582 KB950759 KB950760
KB950762 KB950974 KB951066 KB951072 KB951376 KB951698 KB951978 KB952069 KB952287
KB952709 KB953155 KB953733 KB954154 KB954211 KB954459 KB955020 KB955069 KB955302
KB955839 KB956390 KB956391 KB956802 KB956841 KB957095 KB957097 KB957388 KB958215
KB958623 KB958624 KB958644 KB958687 KB960714

Breeze 2 default project

Breeze 2 includes a default project that contains report and export methods. The project is automatically loaded when you install the Breeze 2 software.

Export methods included in the Breeze 2 default project

The Breeze 2 default project includes the following export methods.

Breeze 2 export methods:

Method	Description
Export Peak Info	Exports peak results, in ASCII format, to C:\Breeze2ExportData. The exported data is labeled with sample name, vial number, injection number, peak name, RT, area, height, %amount, amount, and units.
Export Raw Data	Exports raw data points (x,y values), in both AIA and ASCII formats, to C:\Breeze2ExportData. The exported data is labeled with sample name, vial number, injection number, and column type.

Note: Before exporting data from the Breeze 2 default project, you must create the directory:

C:\Breeze2ExportedData

Alternatively, you can override the default export directory when you select export parameters. See "Exporting Breeze data files" in the Breeze 2 online Help for details.

The exported files use these delimiters to separate data:

Column: tab

Row: carriage return

Text: " " (double quotation mark)

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Report methods included in the Breeze 2 default project

The Breeze 2 default project contains methods that serve as templates for selecting and formatting data to create a report. You can generate reports for processed or unprocessed data.

The Breeze 2 default project includes the following report methods.

Breeze 2 report methods:

Method	Description
Calibration Report Relative	Calibration plot and relative calibration table with header and footer
Detailed Individual Report	Header, sample info, autoscaled chromatogram, table with resolution and plate count, footer for individual result
Export Method Report	Export Method Information
Gradient Overlay Report ASC	Header, sample info, autoscaled chromatogram (ASC) with overlay of %B, table, footer for individual result
Individual Control Report	Header, sample info, autoscaled chromatogram, table with control information, footer for individual result
Individual Report 2nd HIP	Header, sample info, chromatogram scaled to 2nd highest integrated peak (2nd HIP), table, footer for individual result
Individual Report ASC	Header, sample info, autoscaled chromatogram (ASC), table, footer for individual result
Individual Report HIP	Header, sample info, chromatogram scaled to highest integrated peak (HIP), table, footer for individual result
Injection Summary Report	Header, Sample Info, Chrom, Table, Footer for all detectors from a single injection
Instrument Control Report	Instrument Control Information
Landscape Det Ind Report	Header, sample info, autoscaled chromatogram, table with resolution and plate count, footer for individual result all in a landscape orientation
Landscape LC Calibration Report	LC calibration plot and table for each peak in a landscape orientation
Landscape Overlay Report	Overlaid chromatograms in a landscape orientation
Landscape Peak Summary Report	Overlay and Peak Table ordered by Peak Name, with summary statistics for Retention Time an a landscape orientation
LC Calibration Report	LC calibration plot and table for each peak
Method Report	Export Method Information

Breeze 2 report methods:

Method	Description
Narrow Std Overlay Report	Overlaid Chromatogram and Peak Table including MP with Header and Footer
Narrow Std Report Mod Univ	Modified universal chromatogram and peak table with header and footer
Narrow Std Report Relative	Relative chromatogram and peak table with header and footer
Overlay Report No Spacing	Overlaid Chromatograms with no spacing between the chromatograms
Overlay Report With Spacing	Overlaid Chromatograms with spacing between the chromatograms
Peak Summary Report	Overlay and Peak Table ordered by peak name, with summary statistics for Retention Time
Processing Report	Integration and other Processing Parameters
Replicate Injection Report	Summary of Replicate Injections (from the same row in the Run Samples Table)
Result Set Report	Summary of a Result Set with Cover Page
Summary Rpt 2nd High Peak	Header, Sample Info, Chrom scaled to 2nd highest integrated peak, Table, Footer for all detectors from a single injection
System Performance ASTM Report	Header, sample info, detector noise, drift, peak to peak noise, chrom, table with resolution and plate count, footer for individual result
System Performance Report	Header, sample info, chrom, table with resolution and plate count, footer for individual result