

Dionex Easion Ion Chromatography System Installation Instructions

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Software version: Chromeleon 7.2.10 MUa and later

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This manual provides instructions for the initial installation of the Thermo Scientific™ Dionex™ Easion™ Ion Chromatography System. The Dionex Easion is an integrated system consisting of a pump, an injection valve, and a conductivity cell. Other system components (guard column, separator column, and suppressor) are ordered separately.

The Dionex Easion is controlled with a PC (personal computer) running Windows® 10 or Windows® 8.1 operating system and the Thermo Scientific™ Dionex™ Chromeleon™ 7 Chromatography Data System (version 7.2.10 MUa and later). Chromeleon provides complete instrument control, data acquisition, and data management.

Follow the installation instructions in the order presented here. These instructions have been carefully developed to ensure that the system installation is successful.

1.1 Related Documentation

The following documents are available for download from the Thermo Fisher Scientific website or by contacting your local office.

- *Thermo Scientific Dionex Easion Ion Chromatography System Operator's Manual* (Document No. 155028)
- *Thermo Scientific Dionex AS-DV Autosampler Operator's Manual* (Document No. 065259)
- Manuals for columns and other consumable products, including:
 - Thermo Scientific Dionex CRS 500 Product Manual* (Document No. 031727)
 - Thermo Scientific Dionex OnGuard II Cartridges Product Manual* (Document No. 031688)
 - Thermo Scientific Dionex Guardcap Product Manual* (Document No. 065705)
- *Chromeleon 7 Installation Guide* (Document No. 7229.0003)

1.2 Safety Information

The Dionex Easion is manufactured by Thermo Fisher Scientific (Shanghai) Instruments Company, Ltd. at the following location:

Jinqiao Export Processing Zone, Pu Dong
T71-6 No. 211, Qin Qiao Road
201206 Shanghai
People's Republic of China

The Dionex Easion is designed for IC (ion chromatography) applications and should not be used for any other purpose. Operation of a Dionex Easion in a manner not specified by Thermo Fisher Scientific may result in personal injury.

If there is a question regarding appropriate usage, contact Technical Support for Dionex products before proceeding:

- In the U.S. and Canada, call 1-800-532-4752 and select **option 2**.
- Outside the U.S. and Canada, call the nearest Thermo Fisher Scientific office.

1.2.1 Safety Messages and Notes

This manual contains warnings and precautionary statements that can prevent personal injury and/or damage to the Dionex Easion when properly followed. Safety messages appear in bold type and are accompanied by icons, as shown below.



Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. Also used to identify a situation or practice that may seriously damage the instrument, but will not cause injury.



Indicates that the function or process of the instrument may be impaired. Operation does not constitute a hazard.

Messages d'avertissement en français



Signale une situation de danger immédiat qui, si elle n'est pas évitée, entraînera des blessures graves à mortelles.



Signale une situation de danger potentiel qui, si elle n'est pas évitée, pourrait entraîner des blessures graves à mortelles.



Signale une situation de danger potentiel qui, si elle n'est pas évitée, pourrait entraîner des blessures mineures à modérées. Également utilisé pour signaler une situation ou une pratique qui pourrait gravement endommager l'instrument mais qui n'entraînera pas de blessures.

Warnhinweise in Deutsch



Bedeutet unmittelbare Gefahr. Mißachtung kann zum Tod oder schwerwiegenden Verletzungen führen.



Bedeutet eine mögliche Gefährdung. Mißachtung kann zum Tod oder schwerwiegenden Verletzungen führen.



Bedeutet eine mögliche Gefährdung. Mißachtung kann zu kleineren oder mittelschweren Verletzungen führen. Wird auch verwendet, wenn eine Situation zu schweren Schäden am Gerät führen kann, jedoch keine Verletzungsgefahr besteht.

Notes

Informational messages also appear throughout this manual. These are labeled NOTE and are in bold type:

NOTE NOTES call attention to certain information. They alert you to an unexpected result of an action, suggest how to optimize instrument performance, and so on.

1.2.2 Safety Symbols

These symbols appear on the Dionex Easion or on Dionex Easion labels:



Alternating current



Primary protective conductor terminal



Secondary protective conductor terminal



Power supply is on



Power supply is off



Indicates a potential hazard. Refer to this manual for an explanation of the hazard and how to proceed.

1.3 Regulatory Compliance

Thermo Fisher Scientific performs complete testing and evaluation of its products to ensure full compliance with applicable domestic and international regulations. When the Dionex Easion is delivered to you, it meets all pertinent international electromagnetic compatibility (EMC), safety, and material compliance requirements and directives.

Changes that you make to your system may void compliance with one or more of these requirements and directives. Changes to your system include replacing a part or adding components, options, or peripherals not specifically authorized and qualified by Thermo Fisher Scientific. To ensure continued compliance with these requirements and directives, replacement parts and additional components, options, and peripherals must be ordered from Thermo Fisher Scientific or one of its authorized representatives.

For additional details, please refer to the CE Declaration of Conformity available on the Thermo Fisher Scientific website.

1.3.1 Notice on Lifting and Handling of Thermo Scientific Instruments

For your safety, and in compliance with international regulations, the physical handling of this Thermo Fisher Scientific instrument requires a team effort to lift and/or move the instrument. This instrument is too heavy and/or bulky for one person alone to handle safely.

1.3.2 Notice on the Proper Use of Thermo Scientific Instruments

In compliance with international regulations: This instrument must be used in the manner specified by Thermo Fisher Scientific to ensure protections provided by the instrument are not impaired. Deviations from specified instructions on the proper use of the instrument include changes to the system and parts replacement. Accordingly, order replacement parts from Thermo Fisher Scientific or one of its authorized representatives.

1.3.3 Notice on the Susceptibility to Electromagnetic Transmission

Your instrument is designed to work in a controlled electromagnetic environment. Do not use radio frequency transmitters, such as mobile phones, in close proximity to the instrument.

For manufacturing location, see the label on the instrument.

1.3.4 WEEE Compliance

This product is required to comply with the European Union's Waste Electrical & Electronic Equipment (WEEE) Directive 2012/19/EU. It is marked with the following symbol:



This symbol indicates that the equipment must not be thrown into general waste and should be collected separately and processed in accordance with local and state requirements.

Conformité DEEE

Ce produit est conforme avec la directive européenne (2012/19/EU) des Déchets d'Equipements Electriques et Electroniques (DEEE). Il est marqué par le symbole suivant:



Ce symbole indique que l'équipement ne doit pas être jeté avec les déchets ordinaires, mais doit être collecté séparément et traité conformément aux réglementations locales et nationales.

WEEE Konformität

Dieses Produkt entspricht der EU Waste Electrical & Electronic Equipment (WEEE) Richtlinie 2012/19/EU. Es ist mit dem folgenden Symbol gekennzeichnet:



Instrumente mit diesem Zeichen sind nicht für den normalen Abfall bestimmt; Entsorgung soll den lokalen Vorschriften entsprechend ausgeführt werden.

2 • Unpacking Instructions

This chapter provides instructions for unpacking the Dionex Easion and the PC on which Chromeleon software is installed.

2.1 Unpacking the Dionex Easion

1. Open the shipping container.
2. Remove the foam and all packed items (bottles, Ship Kit, and so on) from the top of the container and place them on a workbench.
3. Using the cardboard side handles, carefully lift the Dionex Easion out of the container and set it on the workbench.
4. Remove the cardboard and foam cradle.
5. Remove the polyethylene bag.
6. Inspect the Dionex Easion for any shipping damage.
7. Save the container and all packing material. You will need them in future if the system is shipped.

2.2 Unpacking the PC

1. Open the PC box.
2. Remove the PC and all documentation from the box and place them on a workbench.
3. Follow the instructions in the PC installation guide to connect the PC components.

3 • System Setup

This chapter provides instructions for connecting the Dionex Easion to the PC on which Chromeleon software is installed and configuring IC system properties in the Chromeleon Instrument Configuration Manager. It also describes autosampler connections, if required.

3.1 Facility Requirements

Make sure the installation site meets the following environmental specifications.

- **Main Power:** 90 to 265 Vac, 47 to 63 Hz (auto-sensing power supply; no manual voltage or frequency adjustment required)
- **Operating Temperature:** 10 to 35 °C (50 to 95 °F)
- **Humidity:** 5% to 95% relative humidity, noncondensing
- Provide a sturdy workbench for the Dionex Easion. The workbench height should ensure convenient access to the interior of the system.
- Allow at least 15 cm (6 in) behind the Dionex Easion for power connections and ventilation. For optimal performance, install the system in a draft-free location, out of the path of air conditioning and heating vents.
- Use ASTM Type I (18.2 megohm-cm) filtered and deionized water when preparing eluent and regenerant.

3.2 Connecting the Autosampler (Optional)

If the system includes a Thermo Scientific™ Dionex™ AS-DV Autosampler, place the autosampler to the left of the Dionex Easion on the workbench.

Connect the sample out line from the Dionex AS-DV to port **S (5)** on the injection valve inside the Dionex Easion (see [Figure 3-1](#)). For detailed connection instructions, refer to the Dionex AS-DV operator's manual.

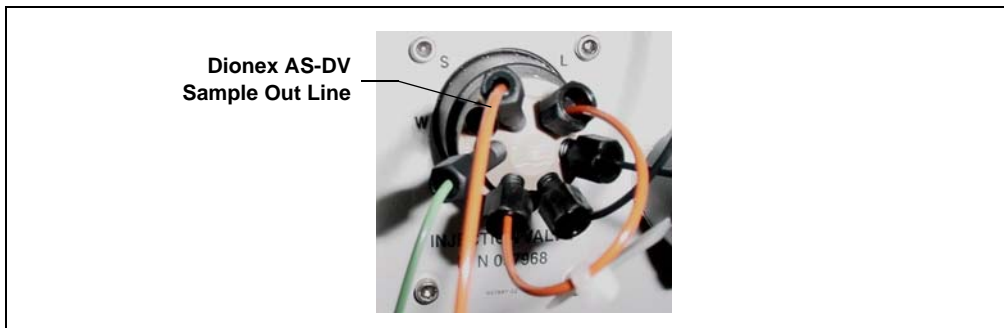


Figure 3-1. Dionex Easion Injection Valve

3.3 Connecting to the Chromeleon PC

The Dionex Easion rear panel provides a USB receptacle for connecting to a USB port on the PC on which Chromeleon is installed. There are two options for connecting the system to the PC:

- Connect the Dionex Easion directly to a USB port on the PC.
- or–
- Connect the Dionex Easion to an external USB 2.0 hub, and then connect the hub to the PC.

An external hub(s) is required in the following situations:

- When the number of USB devices in the system exceeds the number of available USB ports.
- or–
- When the Dionex Easion or other USB device is more than 5 meters (16 ft) from the PC.

IMPORTANT

The USB standard limits the USB cable length to 5 meters (16 ft). Each USB device can be separated from the PC by no more than five hubs. Thus, each USB device can be located no more than 30 meters (32 yds) from the PC.

All USB connections described here require standard A-to-B cables (see [Figure 3-2](#)).

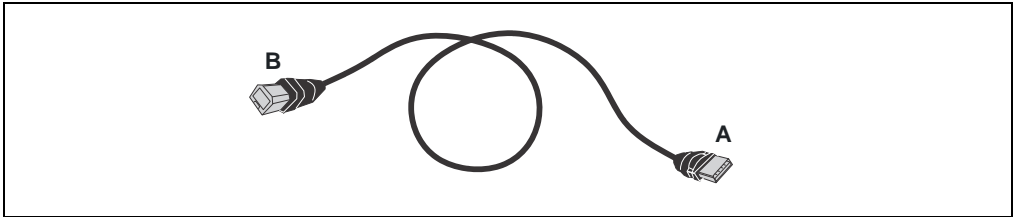


Figure 3-2. USB A-to-B Cable

3.3.1 Connecting the Dionex Easion Directly to the PC

Prerequisites

Check that the following tasks have been completed. If necessary, complete them now. For instructions, refer to *Chromeleon 7 Installation Guide*.

- Chromeleon software was installed.
- The Chromeleon license was installed.

IMPORTANT

Before connecting the USB cable, verify that Chromeleon is installed. If not, Windows will be unable to identify the new USB device when the power is turned on.

Do not turn on the power to the Dionex Easion (or any other USB modules) until after you connect the USB cable.

To connect the system to the PC:

1. Locate the USB cable (P/N 960777) provided in the Dionex Easion Ship Kit (P/N 067768).
2. Plug the “A” connector of the USB cable into a USB port on the Chromeleon PC (see [Figure 3-3](#)).
3. Plug the “B” connector of the USB cable into the USB receptacle on the Dionex Easion rear panel (see [Figure 3-4](#)).

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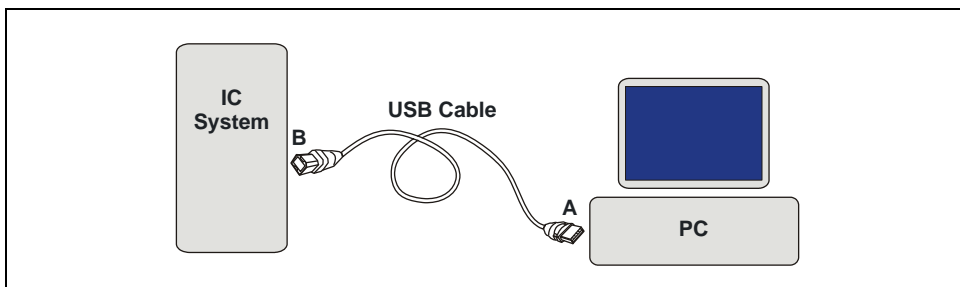


Figure 3-3. Example USB Connections: IC System Connected to the PC

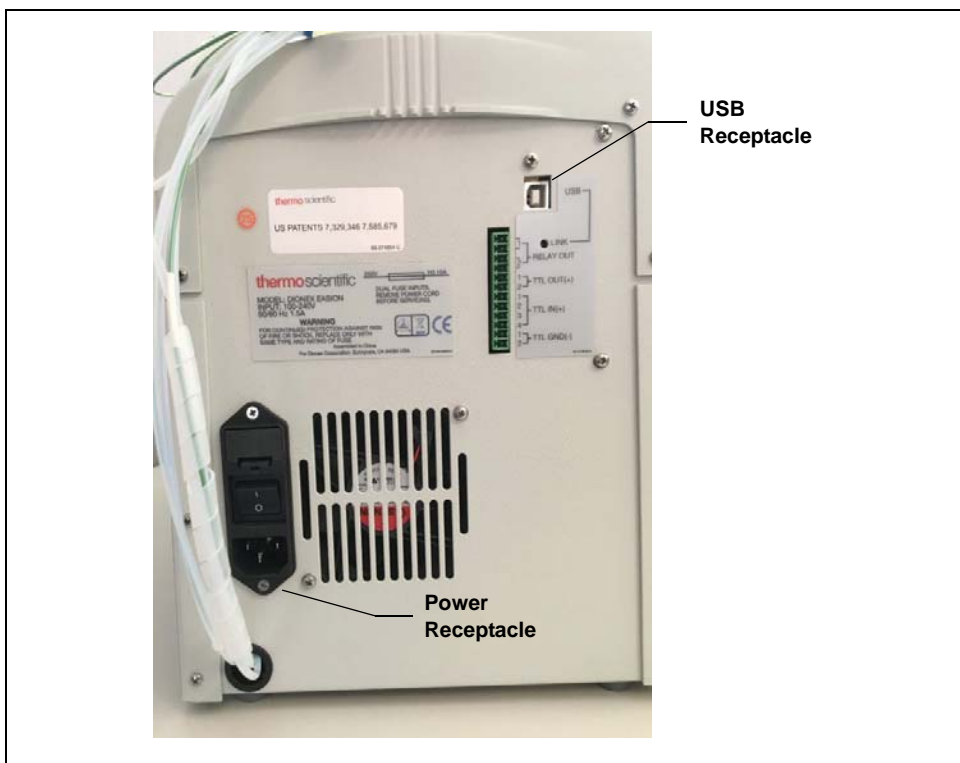


Figure 3-4. Dionex Easion Rear Panel

3.3.2 Connecting the Dionex Easion to an External Hub

The Dionex Easion Ship Kit (P/N 067768) includes one USB cable (P/N 960777). A configuration with an external hub requires at least one additional USB cable.

Prerequisites

Check that the following tasks have been completed. If necessary, complete them now. For instructions, refer to *Chromeleon 7 Installation Guide*.

- Chromeleon software was installed.
- The Chromeleon license was installed.

IMPORTANT

Before connecting the USB cable, verify that Chromeleon is installed. If not, Windows will be unable to identify the new USB device when the power is turned on.

Do not turn on the power to the Dionex Easion (or any other USB modules) until after you connect the USB cable.

To connect the system to an external hub:

Refer to [Figure 3-5](#) to connect the Dionex Easion, the PC, and any additional devices (for example, a Dionex AS-DV) to an external USB hub. Refer to the manual provided by the hub vendor for complete installation instructions.

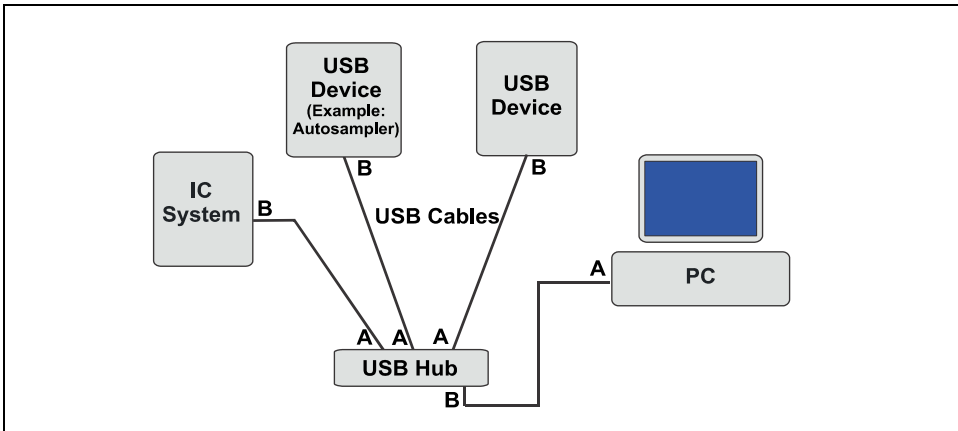


Figure 3-5. Example USB Connections: Multiple Devices Connected to an External Hub

IMPORTANT

The USB standard limits the USB cable length to 5 meters (16 ft). Each USB device can be separated from the PC by no more than five hubs. Thus, each USB device can be located no more than 30 meters (32 yds) from the PC.

3.4 Connecting the Dionex Easion Power Cord

1. Verify that the main power switch on the rear panel of the Dionex Easion (see [Figure 3-4](#)) is turned off. (The main power switch may have been turned on accidentally when the system was unpacked.)
2. Connect the power cord (IEC 320 C13) (ordered separately) from the main power receptacle on the Dionex Easion rear panel to a grounded power source. The Dionex Easion power supply is auto-sensing; this means that no adjustment is required to select the line voltage.



SHOCK HAZARD—To avoid electrical shock, use a grounded receptacle. Do not operate the Dionex Easion or connect it to AC power mains without an earthed ground connection.



The power supply cord is used as the main disconnect device. Make sure the socket-outlet is located near the Dionex Easion and is easily accessible.



Operation at AC input levels outside of the specified operating voltage range may damage the Dionex Easion.



DANGER D'ÉLECTROCUTION—Pour éviter toute électrocution, il faut utiliser une prise de courant avec prise de terre. Ne l'utilisez pas et ne le branchez pas au secteur C.A. sans utiliser de branchement mis à la terre.



Le cordon d'alimentation principal est utilisé comme dispositif principal de débranchement. Veillez à ce que la prise de base soit située/installée près du module et facilement accessible.



STROMSCHLAGGEFAHR—Zur Vermeidung von elektrischen Schlägen ist eine geerdete Steckdose zu verwenden. Das Gerät darf nicht ohne Erdung betrieben bzw. an Wechselstrom angeschlossen werden.



Das Netzkabel ist das wichtigste Mittel zur Stromunterbrechung. Stellen Sie sicher, daß sich die Steckdose nahe am Gerät befindet und leicht zugänglich ist.

3.5 Configuring Device Properties

When the Dionex Easion (or other device) is added to an instrument in Chromeleon, default configuration properties are assigned automatically. If the default settings are not correct for your system, you can change them.

Prerequisites

Check that the following tasks have been completed. If necessary, complete them now. For instructions, refer to *Chromeleon 7 Installation Guide*.

- The USB device driver was installed.
- An instrument was created in the Chromeleon Instrument Configuration Manager.
- The Dionex Easion was assigned to the Chromeleon instrument.

To start the Instrument Configuration Manager: On the Windows taskbar, click **Start > All Programs > Thermo Chromeleon 7 > Instrument Configuration Manager**.

To configure the Dionex Easion:

1. In the Instrument Configuration Manager, verify that the correct device is assigned to control the Dionex Easion injection valve.
 - a. In the Properties dialog box for the Dionex Easion, click the **Inject Valve** tab.
 - b. For **Pump_InjectValve**, verify the **Controlled By** setting.

If the instrument includes a Dionex AS-DV, the **Controlled By** setting must be **AS**.

If the instrument does *not* include a Dionex AS-DV, the **Controlled By** setting must be **Dionex Easion**.

To change a **Controlled By** setting: Select the **Pump_InjectValve** name, press **F2**, and select the correct device.
2. Check the detection limits, standby flow rate, and inactivity time-out period settings.
 - a. In the Properties dialog box, click the **Options** tab.
 - b. Under **Set Detection Limits**, verify that the default conductivity range (0 to 500 μ S) is selected. The larger range (0 to 10,000 μ S) is used only for specialized applications.
 - c. To have the pump flow rate automatically reduced after a period of inactivity, select a **Standby Flow Rate** and an **Inactivity Time Out Period**. To disable this feature, set the time out period to **0 (Off)**.
3. Select the TTL and relay output settings.
 - a. In the Properties dialog box, click the **State Devices** tab.
 - b. Select the check boxes for the TTL and relay outputs you plan to use. Clear the check boxes for the outputs you do not plan to use.
 - c. If a Dionex AS-DV is installed, verify that **Pump_ECD_Relay_1** is selected.
4. Click **OK** to close the Properties dialog box.
5. Click **File > Save Installation**.
6. If the “no inject device installed” message appears, ignore it and click **Close**. (This message appears when the instrument does not include an autosampler because you are doing manual injections.)

7. Exit the Instrument Configuration Manager.

3.6 Connecting to the Chromeleon ePanel

1. On the Windows taskbar, click **Start > All Programs > Thermo Chromeleon 7 > Chromeleon 7**.
2. In the Chromeleon Console, click the Instruments Category Bar.
3. Select the name of the instrument in which the Dionex Easion is configured. Chromeleon will connect to the instrument and display the ePanel Set.

4 • System Plumbing

This chapter provides instructions for plumbing the Dionex Easion and verifying operational status.

4.1 Preparing Eluent

The eluent bottle assembly (P/N 062510) consists of an eluent bottle, a cap, and a stopper assembly.

1. Rinse the eluent bottle with deionized water.
2. Prepare 2 liters of eluent. For instructions, refer to the column manual.
3. Fill the bottle with the prepared eluent.
4. Insert the stopper assembly tubing into the bottle and hand-tighten the cap.
5. Place the bottle in the tray on the top of the Dionex Easion.

4.2 Preparing Regenerant

1. Verify that you have the correct regenerant bottle assembly (for anion analyses: P/N 068222; for cation analyses, P/N 057713).
 - For anions, the cap is labeled **ANION** and the **REGEN BOTTLE OUT** line extends to the bottom of the bottle.
 - For cations, the cap is labeled **CATION** and the **REGEN BOTTLE OUT** line extends only about 1 cm (0.4 in) into the bottle.
2. Rinse the bottle with deionized water.
3. Fill the bottle about halfway with deionized water.
4. Determine the regenerant concentration required for your application. The optimal regenerant concentration can be estimated for a known eluent strength by:

$$\text{Anion Regenerant Concentration} = (\text{mM eluent}) \times 2$$

$$\text{Cation Regenerant Concentration} = (\text{mM eluent}) \times 5$$

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Example: If you are using 20 mM methanesulfonic acid (MSA) as the eluent for a cation analysis, use a regenerant concentration of 100 mM tetrabutylammonium hydroxide (TBAOH).

For more information, refer to the column manual and the installation instructions for the Displacement Chemical Regeneration (DCR) 2-Liter Kit (P/N 056882

5. Empty the required amount of concentrate (for anions: sulfuric acid; for cations: TBAOH) into the bottle.



For acid concentrates (such as the anion regenerant), always pour the concentrate into deionized water, not into the empty bottle.



Pour les concentrés acides (comme le régénérant anionique), versez toujours le concentré dans de l'eau désionisée et non dans le réservoir vide.



Gießen Sie bei säurehaltigen Konzentraten (beispielsweise dem Kationenelutionsmittel) das Konzentrat immer in entionisiertes Wasser und nicht in den leeren Behälter.

6. Fill the bottle almost to the top with deionized water.
7. Place the bottle in the tray on the top of the Dionex Easion.

NOTE To avoid staining the Dionex Easion, be careful not to spill TBAOH on the system.

8. Using the concentrate bottle, pour additional deionized water into the bottle until it is completely filled to the top. If a few drops spill over, then it is full enough.



The regenerant bottle must remain filled all the way to the top at all times.

9. Insert the stopper assembly tubing into the bottle and hand-tighten the cap.
10. Invert the bottle three or four times to disperse the concentrate.



After the analysis begins, do not mix the contents of the regenerant bottle.

4.3 Connecting Bottle Lines

Connect the liquid lines from the Dionex Easion to the corresponding lines exiting the eluent and regenerant bottles (see [Figure 4-1](#)).

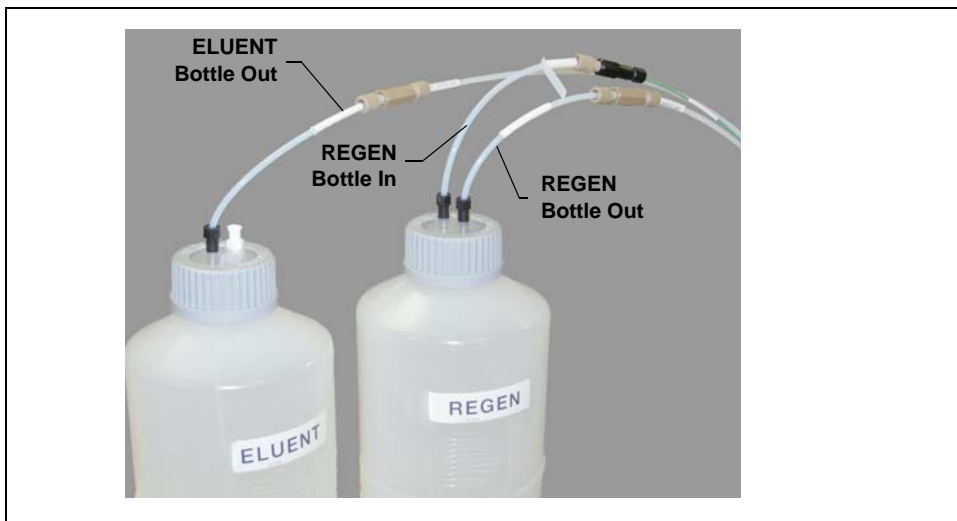


Figure 4-1. Liquid Lines Connected to Bottles

4.4 Hydrating the Suppressor

The Thermo Scientific™ Dionex™ Chemically Regenerated Suppressor (Dionex CRS™ 500) is recommended for use with the Dionex Easion.

1. Remove the suppressor from the shipping box.
2. Remove the fitting plugs from all ports on the suppressor.
3. Follow the instructions in the suppressor manual to hydrate the suppressor membranes, resin, and screens.

4.5 Setting Up Waste Lines

1. Untape the coiled waste and liquid lines from the Dionex Easion rear panel.
2. Verify that a DCR waste backpressure tubing assembly (P/N 060214) is installed on the **REGEN OUT** waste line (see [Figure 4-2](#)). The tubing assembly

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provides backpressure that helps to compress any air bubbles that form in the regenerant chamber of the suppressor.

IMPORTANT

If you shorten or replace the REGEN OUT waste line, always reinstall the DCR waste backpressure tubing assembly. This will prevent baseline spikes.

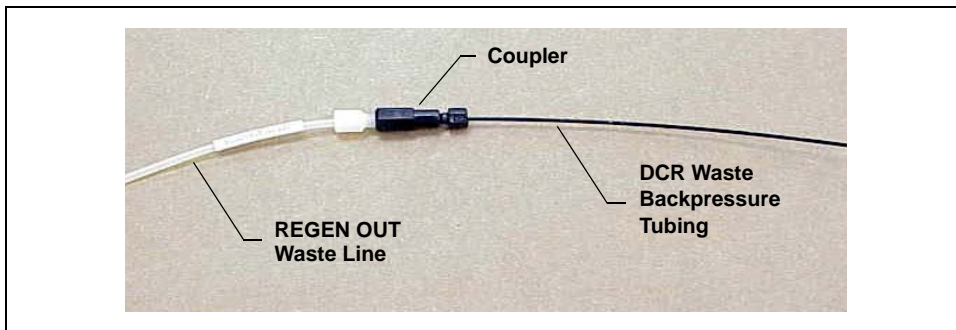


Figure 4-2. Liquid Lines Connected to Bottles

3. Place the ends of the waste lines into a waste container.

IMPORTANT

To ensure correct drainage, check the waste lines periodically to be sure they are not bent, pinched, or elevated at any point.

4.6 Setting the Eluent Volume

Use the **Eluent Fill Volume** slider on the Chromeleon ePanel to set the volume of liquid in the eluent bottle.

- Chromeleon determines eluent usage by monitoring the flow rate and the length of time the pump is on. As the eluent is depleted, Chromeleon updates the **Eluent Fill Volume** display.
- A warning appears in the Chromeleon audit trail when the eluent level falls below 200 mL, and then again when the level falls below 100 mL.

IMPORTANT

To ensure the accuracy of the **Eluent Fill Volume** display, reset the volume each time the eluent bottle is filled.

4.7 Verifying Communication

1. While observing the Dionex Easion front panel LEDs, click the **Disconnect** button on the Chromeleon ePanel. Verify that only the **Power** LED is on (see [Figure 4-3](#)).
2. While observing the Dionex Easion front panel LEDs, click the **Connect** button on the Chromeleon ePanel. Verify that both the **Power** and **Ready** LEDs are on (see [Figure 4-3](#)).

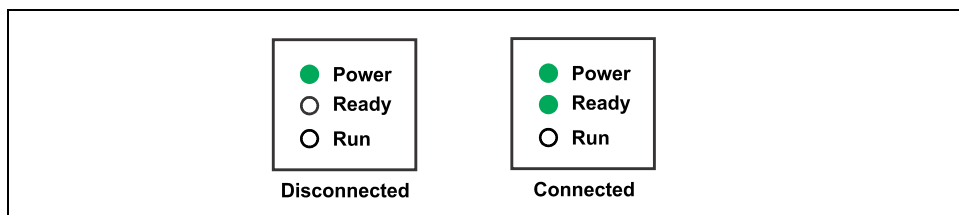


Figure 4-3. Dionex Easion LEDs: Connected and Disconnected States

4.8 Priming the Pump

The priming procedure for a new pump consists of two phases:

- Priming with a syringe
–and–
- Priming with the **Prime** command in Chromeleon

To prime the pump with a syringe:

1. Verify that the pump is turned off.
2. Disconnect the waste line from the luer fitting on the secondary (left) pump head (see [Figure 4-4](#)).
3. Connect a 10 mL syringe (P/N 079803) to the luer fitting (see [Figure 4-4](#)).

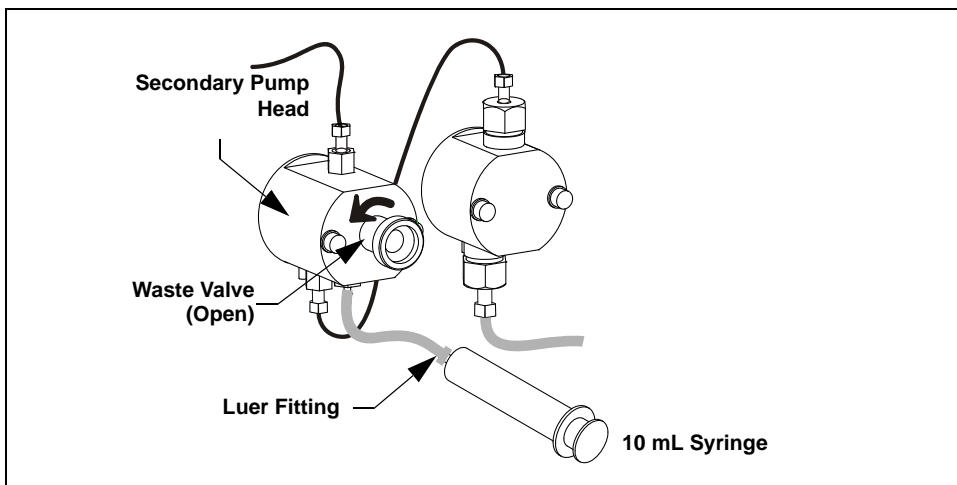


Figure 4-4. Priming the Eluent Lines

4. Open the waste valve on the secondary pump head by turning the knob one-half turn counterclockwise (see [Figure 4-4](#)).
5. Draw the syringe back to begin removing air from the flow path.
6. When a small amount of liquid enters the syringe, remove the syringe from the luer fitting and reconnect the waste line.

NOTE When the liquid lines and pump heads contain liquid, it is difficult to draw the syringe back. In this case, use the **Prime** command alone to remove any air in the lines.

To prime the pump with the Prime command:

1. With the waste valve open, click **Prime** on the Chromeleon ePanel. The pump will begin pumping at about 3 mL/min.
2. Continue priming the pump until no air bubbles are exiting the pump waste line.
3. Click the pump **Off** button on the Chromeleon ePanel.
4. Close the waste valve. **Do not overtighten.**

4.9 Plumbing the System

For reference, [Figure 4-5](#) shows the system flow schematic after all plumbing is completed.

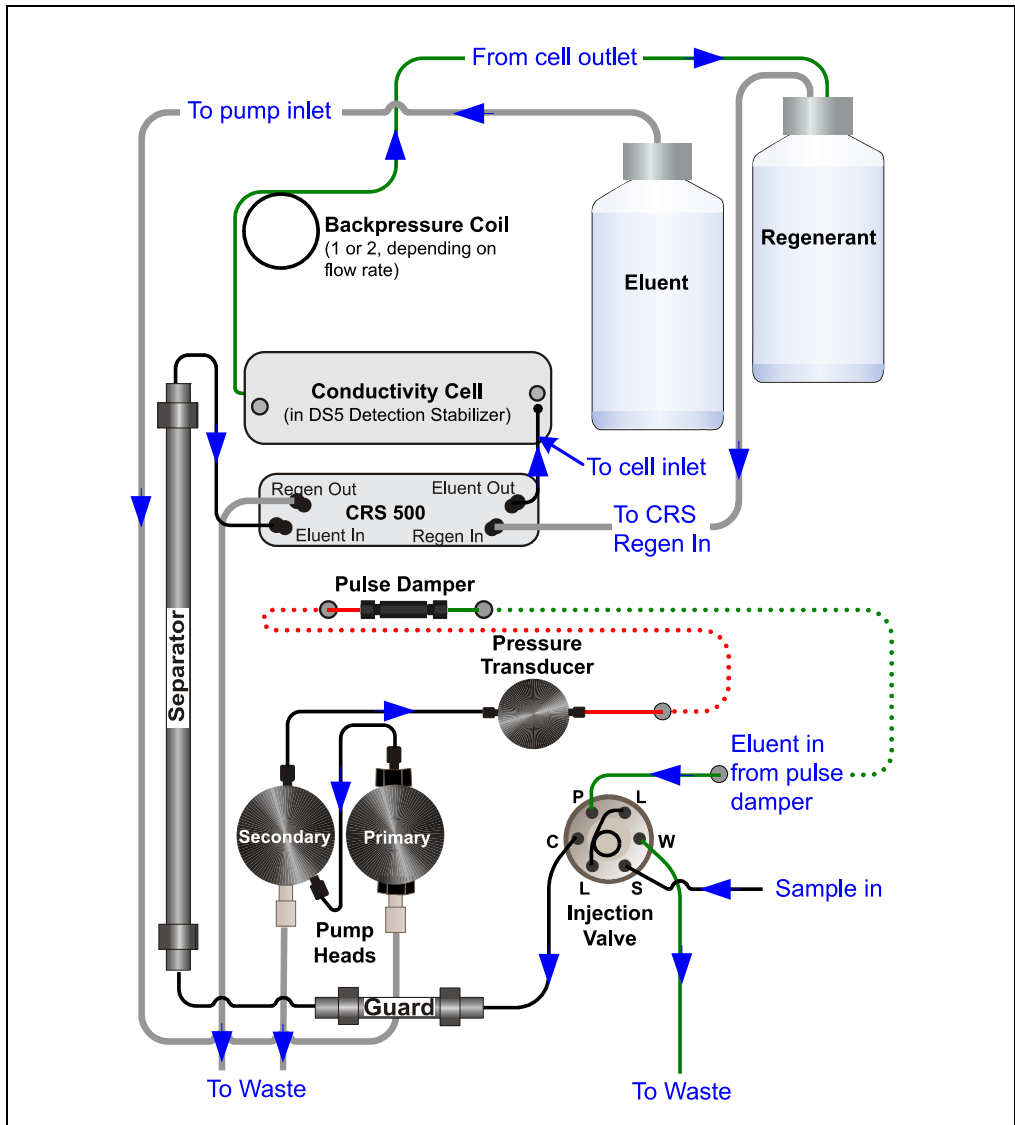


Figure 4-5. Dionex Easion Flow Schematic

Notes for 2 mm Columns

If you plan to install 2 mm columns:

- Replace the tubing from the injection valve to the guard column, the guard column to the separator column, and the separator column to the suppressor with equivalent lengths of red 0.125-mm (0.005-in) ID PEEK tubing. The tubing is provided in the Microbore Tubing Kit (P/N 052324).
- A sample loop with a smaller volume may be required. Refer to the column manual for additional information.

4.10 Flushing the System

1. Disconnect the line labeled **GUARD IN** from the union connecting it to the **GUARD OUT** line. (The other end of the **GUARD IN** line is connected to port **C** on the injection valve.)
2. Direct the **GUARD IN** line to a waste container.
3. On the Chromeleon ePanel, set the flow rate to 1 mL/min.
4. Click the pump **On** button on the Chromeleon ePanel and let the pump run for 15 minutes.

4.11 Flushing the Columns

NOTE Flushing is required for new guard and separator columns only.

To flush the guard column:

1. Remove the guard and separator columns from their shipping boxes.
2. Remove the fitting plugs from the ends of each column.
3. Orient the guard column with the arrow on the label pointing in the direction of flow (away from the injection valve) and connect the **GUARD IN** line to the inlet of the guard column.
4. Remove the union from the **GUARD OUT** line.
5. Connect the **GUARD OUT** line to the guard column outlet.
6. Disconnect the **COL IN** line from the union connecting it to the **COL OUT** line.

7. Direct the **COL IN** line to a waste container.
8. On the Chromeleon ePanel, select the flow rate recommended for the guard column.
9. Click the pump **On** button on the Chromeleon ePanel and let the pump run for 15 minutes.

To flush the separator column:

1. Orient the separator column with the arrow on the column label pointing toward the conductivity detector cell and connect the **COL IN** line to the separator column inlet.
2. Remove the union from the **COL OUT** line.
3. Connect the **COL OUT** line to the separator column outlet.
4. Disconnect the **ELUENT IN** line from the union connecting it to the **ELUENT OUT** line.
5. Direct the **ELUENT IN** line to a waste container.
6. Click the pump **On** button on the Chromeleon ePanel and let the pump run for 15 minutes.
7. Reconnect the **ELUENT IN** line to the union on the **ELUENT OUT** line. The column is now connected directly to the cell inlet. (This is a temporary connection.)

4.12 Installing the Columns

1. Push the guard column onto the clips.
2. Push the separator column onto the clips.

4.13 Connecting the Backpressure Coils

Connect one or more backpressure coils between the conductivity cell outlet and the regenerant bottle inlet (see [Figure 4-5](#)).

1. Determine the number and type of backpressure coils required for your system.

Standard bore systems: Use one or two of the black backpressure coils (P/N 045877) provided in the Dionex Easion Ship Kit (P/N 067768).

Flow Rate	Number of Coils
1.5 to 3.0 mL/min	1 (black)
0.5 to 1.5 mL/min	2 (black)

Microbore systems: Use one or two of the red backpressure coils (P/N 045878) provided in the Microbore Tubing Kit (P/N 052324).

Flow Rate	Number of Coils
0.3 to 0.5 mL/min	1 (red)
Less than 0.3 mL/min	2 (red)

2. Remove the union connecting the green and orange lines labeled **CELL OUT** and connect the backpressure coils.

4.14 Installing the Suppressor

1. Install the hydrated suppressor onto the brackets located below the conductivity cell.
2. Remove the union connecting the **REGEN IN** and **REGEN OUT** lines. Connect the lines to the corresponding ports on the suppressor.

4.15 Filling the Regenerant Line

1. Click the pump **On** button on the Chromeleon ePanel and allow the pump to run until liquid fills the **REGEN OUT** line and begins entering the suppressor **REGEN IN** port.
2. Click the pump **Off** button on the Chromeleon ePanel.

3. Remove the union connecting the **ELUENT IN** and **ELUENT OUT** lines. Connect the lines to the corresponding ports on the suppressor.

4.16 Equilibrating the System

1. Click the pump **On** button on the Chromeleon ePanel and begin running at the flow rate recommended for the column.
2. Allow the system to equilibrate. During equilibration, the Chromeleon ePanel displays the background conductivity (the conductivity of the eluent without the offset performed by the autozero command).
3. Click **Autozero** on the Chromeleon ePanel to set the background and zero the conductivity reading.
4. Monitor the system pressure to verify that it is at the expected pressure for the installed column (refer to the column manual for details) and is stable.

Note that column manuals typically provide pressure specifications for systems that *do not* include a guard column. If a guard column is installed in the Dionex Easion, the system pressure will be 15% to 20% higher than the specification in the column manual.

- If the pressure is less than expected, air may be trapped in the system. To release the air, temporarily remove the pump fitting (port **P**) on the injection valve (see [Figure 3-1](#)). After allowing the air to escape, reconnect the fitting.
 - If the pressure is too high, there may be a restriction in the system plumbing. Refer to the Dionex Easion operator's manual for troubleshooting guidance.
5. Check for leaks in the regenerant bottle.
 6. Check that liquid is flowing out of the suppressor **REGEN OUT** waste line.
 7. Monitor the baseline conductivity. In general, this should be <30 $\mu\text{S}/\text{cm}$ for a system set up for anion analyses or <2 $\mu\text{S}/\text{cm}$ for a system set up for cation analyses. Equilibration times vary, and it can take some time to reach the expected values.

4.17 Verifying Operational Status

1. After the system has equilibrated, verify the actual pump pressure and stability by monitoring the pump pressure.
2. Record the short-term pressure fluctuations; they should be less than 0.13 MPa (20 psi). If the pressure fluctuates by more than this amount, prime the pump (see [Section 4.8](#)).

This completes the Dionex Easion installation procedure. For detailed operating instructions, refer to the Dionex Easion operator's manual.