User Guide

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Agilent InfinityLab Quick Change Solvent Purifier User Guide

Introduction

The Agilent Quick Change solvent purifier was developed for minimizing the negative influence of varying mobile phase purities.

It consists of an InfinityLab solvent purifier cartridge that traps chemical impurities (before they become visible as "ghost peaks") and two reusable connectors.

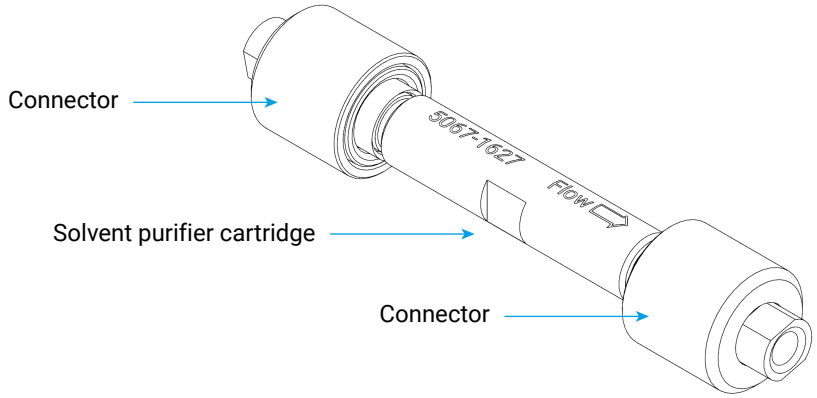

Figure 1. Components of the Agilent InfinityLab Quick Change solvent purifier.

Assembling the solvent purifier

- Before the solvent purifier is ready for use, both connectors need to be attached to the cartridge.
- Loosely screw the connectors onto each end of the cartridge before tightening them simultaneously by hand until a "click" is heard or felt.

Note: The "click" indicates the maximum limit of torque that should be applied.

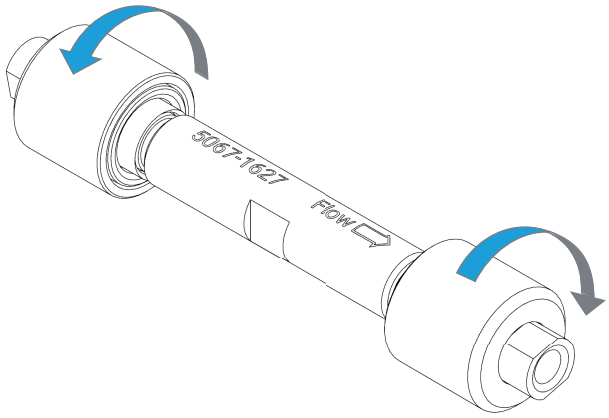

Figure 2. Assembling the Agilent InfinityLab Quick Change solvent purifier.

Installation

- It is highly recommended to position the solvent purifier between the pump's outlet (behind the point of gradient mixing) and the sample injector (see Figure 3).
- See your pump's manual to identify the correct position.
- Use a suitable capillary with the same inner diameter as the one going from the pump to the sampler. A suggestion of suitable capillaries is listed in the part list.
- Pay attention to the flow direction.

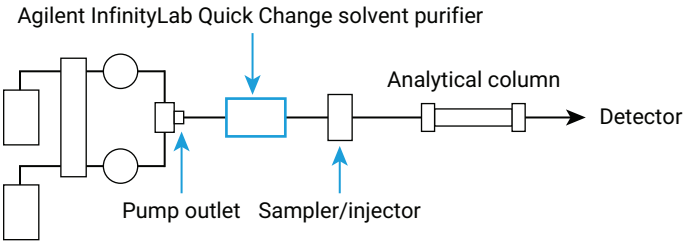

Figure 3. Schematic representation of an HPLC flow path and the position of the Agilent InfinityLab Quick Change solvent purifier.

Replacing the solvent purifier cartridge

- Replacing the solvent purifier cartridge can be done without opening the capillary connections by unscrewing the connectors at both ends.
- A wrench can be attached to the center groove of the cartridge if a tighter grip is required.
- Pay attention to the flow direction.
- The connectors are universal and swapping directly to a different cartridge size is therefore possible.

Using the solvent purifier

Note: To avoid contamination or blockages, it is recommended to remove the analytical column from the flow path when flushing the solvent purifier.

Initial flushing

- Use the strongest organic ratio (gradient composition) of the method being used.
- Flush with 20x the cartridge's dwell volume as a minimum.
- This procedure will ensure the removal of air from the cartridge.

Operational cleaning

- Indicated if the solvent purifier's performance is reduced after extended use.
- Use a stronger organic ratio than referenced in the method.
- Alternatively, use a different organic solvent with a higher elution strength in reversed-phase LC (for example, use acetonitrile where the gradient method uses methanol).
- Flush for an extended time (a few hours) with the solvent purifier installed in the reverse flow orientation.
- Flushing can be done for an extended time or overnight.
- It is highly recommended that cleaning the cartridge is done in reversed flow direction and without a separation column installed.

Replacement cycle

Note: The replacement cycle highly depends on the quality of your solvent and its overall volume.

As a guideline, Agilent recommends the following:

- Replace after 6 months or if flushing attempts do not show success.
- Use a new cartridge when switching to a different mobile phase that is significantly cleaner, or when switching to a method with a higher elution strength.

Handling and precautions

- Do not open the connector caps while the system is under pressure, as this might damage the cartridge's endcaps.
- Do not install the solvent purifier into the sample's flow path.

Storage

Unused solvent purifier cartridges must be kept in closed packaging to avoid adsorption of contaminants from the ambient air.

Specifications

Technical Parameters	
Maximum Pressure	1,300 bar (130 MPa)
pH Range	1 to 13
Dwell Volume (Typical)	2.1 × 20 mm 75 µL 3.0 × 75 mm 350 µL 4.6 × 50 mm 550 µL
Packing Material	Carbon
Wetted Material	Stainless steel, PEEK, carbon
Connector Port	10-32, female, coned
Temperature Range	See the HPLC pump specifications

Applications

Recommended	Not Recommended
Analytical scale, gradient reversed-phase liquid chromatography with a UV detector.	Ion pairing RPLC: Ion pairing agent concentration in the mobile phase is impacted; retention time stability and peak shape may be impacted significantly as a result. LC/MS: Impurities from the mobile phase are flushed out over time, leading to increased background noise and contamination of the MS source due to evaporation of the sample.

Ordering information

Description	Part Number
Assembly Kits	
InfinityLab Quick Change Solvent Purifier Assembly, 2.1 × 20 mm	5067-1620
InfinityLab Quick Change Solvent Purifier Assembly, 3.0 × 75 mm	5067-1621
InfinityLab Quick Change Solvent Purifier Assembly, 4.6 × 50 mm	5067-1622
Replacement Cartridges	
InfinityLab Quick Change Solvent Purifier Cartridge, 2.1 × 20 mm, 1/pk	5067-1623
InfinityLab Quick Change Solvent Purifier Cartridge, 3.0 × 75 mm, 1/pk	5067-1625
InfinityLab Quick Change Solvent Purifier Cartridge, 4.6 × 50 mm, 1/pk	5067-1627
InfinityLab Quick Change Solvent Purifier Cartridge, 2.1 × 20 mm, 5/pk	5067-1624
InfinityLab Quick Change Solvent Purifier Cartridge, 3.0 × 75 mm, 5/pk	5067-1626
InfinityLab Quick Change Solvent Purifier Cartridge, 4.6 × 50 mm, 5/pk	5067-1628
Connection Capillaries (Recommended)	
Capillary, Stainless Steel, 0.17 × 160 mm, SL/SL	5005-0057
Capillary, Stainless Steel, 0.12 × 160 mm, SL/SL	5004-0011
Optional Product	
InfinityLab Cartridge Holder Clip for Use with InfinityLab LC Series Pumps	5432-0062

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DE40480327

Printed in the USA, June 26, 2024
5994-7578EN

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