

# 1290 Infinity II Inline Filters

**0.3  $\mu\text{m}$  SS Frit, 1.3  $\mu\text{L}$  Delay Volume**

This Technical Note describes the use and installing of 1290 Infinity II Inline Filters.

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**Agilent Technologies**

## Intended use

In most cases, the lifetime limiting factor for UHPLC columns is high backpressure. Particular matter in the sample is collecting on the inlet frit of the column and causes an increase in backpressure until the pressure limit of the system is reached.

Using the Agilent Technologies 1290 Infinity II Inline Filters protects the UHPLC column effectively from clogging by particular matter from samples or solvents.

## Kit Contents

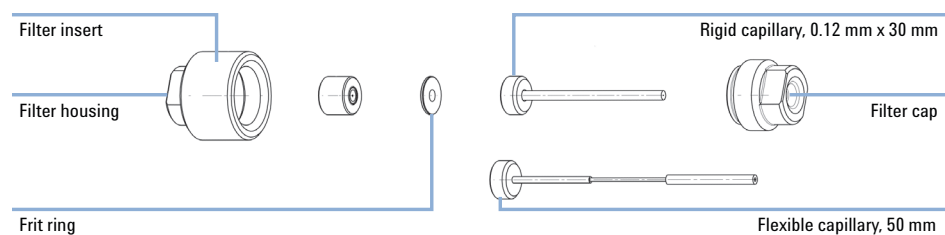
1290 Infinity II Inline Filter Kit (5067-6189):

<b>p/n</b>	<b>Description</b>
	Filter housing (not orderable)
	Filter cap (not orderable)
	Filter insert (not orderable)
5500-1242	Capillary ST 0.12 mm ID, 30 mm length rigid
5500-1243	Capillary ST 0.12 mm ID, 50 mm length, long socket
5023-0271	Frit 0.3 $\mu\text{m}$ for inline filter, 5/pk

Inline Filter Upgrade Kit (G7104-68000):

<b>p/n</b>	<b>Description</b>
5067-5407	Inline Filter Assembly
5067-4748	Capillary ST, 0.17 mm x 90 mm
G4204-40000	Clamp for In-Line Filter

# Schematic



**Figure 1** Exploded view of the 1290 Infinity II Inline Filter

## Technical Data

**Table 1** Technical Data

Max. operating pressure	1300 bar
Delay volume with rigid capillary	1.3 $\mu\text{L}$
Delay volume with flexible capillary	1.6 $\mu\text{L}$

# Infinity II Inline Filter (Sampler, Precolumn)

## Install the Infinity II Inline Filter (Sampler, Precolumn)

Depending of the type of columns in use and the user preferences, the inline filter can be installed in different ways.

Tools required	p/n	Description
	8710-0510	2 ea. 1/4 - 5/16 inch wrench

Parts required	p/n	Description
	5067-6189	1290 Infinity II Inline Filter Kit

**Preparations** Turn the pump off.

### CAUTION

Damage to the fitting

→ Be careful when tightening Swagelok fittings. Overtightening causes permanent damage to the fitting ferrules and will result in leaks. Fingertight plus 1/4 turn is sufficient to provide a pressure tight seal.

## Installation to the Injection Valve of the Autosampler

- 1 Push the rigid capillary through the filter cap.
- 2 Place a frit ring into the filter cap.

### NOTE

The frit ring doesn't have a dedicated front or rear face. It can be installed in either orientation.

- 3 Place the filter insert onto the frit ring with the cutting edge facing the frit ring.
- 4 Screw the filter housing on and tighten with two 5/16 inch wrenches.
- 5 Attach the short rigid tubing of the filter to port 6 of the Autosampler valve.
- 6 Connect the connection capillary between Autosampler and Column Thermostat to the outlet of the inline filter.

## Installation in Front of the Column

- 1 Push the flexible capillary through the filter cap.
- 2 Place a frit ring into the filter cap.
- 3 Place the filter insert onto the frit ring with the cutting edge facing the frit ring.
- 4 Screw the filter housing on and tighten with two 5/16 inch wrenches.
- 5 Install the flexible tubing of the inline filter to the column inlet.
- 6 Use flexible stainless tubing to connect the other end of the inline filter to port 6 of the Autosampler valve.

### NOTE

For use with columns of 250 mm length, the flexible capillary can be bent to place the inline filter onto another tab of the thermostatted column compartment.

With short columns the rigid tubing can be used as well.

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## Maintenance

It is recommended to monitor the backpressure of routine applications.

Replace the frit ring if the backpressure is 10 % above the regular value.

### NOTE

A clogged frit contributes to carryover and retention time shifts.

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### CAUTION

Leaks or damage to filter parts

- Detach the removable capillary from the 1290 Infinity inline filter before opening the filter housing. Leaving the capillary connected may result in leaks or damage to filter parts.
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# Pump Inline Filter

- 1290 Infinity Quaternary Pump
- 1290 Infinity II Flexible Pump

## Install the Pump Inline Filter

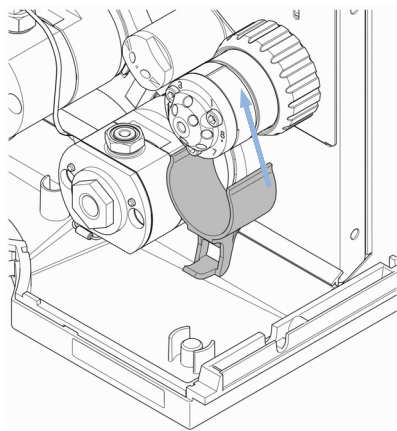
For certain applications, Agilent recommends using an optional inline filter, which can be installed to the Multi Purpose Valve.

Tools required	p/n	Description
	8710-0510	Wrench open 1/4 — 5/16 inch

Parts required	p/n	Description
	G7104-68000	Inline Filter Upgrade Kit The kit includes:
	5067-5407	Inline Filter Assembly
	5067-4748	Capillary ST, 0.17 mm x 90 mm
	G4204-40000	Clamp for In-Line Filter

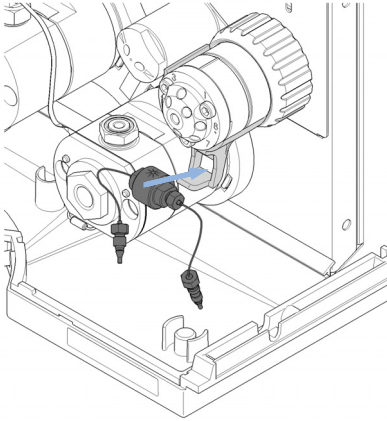
**Preparations** Turn the pump off.

- 1 Remove the capillary between ports 5 and 8 from the Multi Purpose Valve.
- 2 Clip the inline filter clamp to the Multi Purpose Valve.

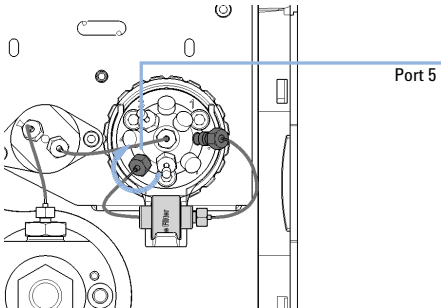


- 3 Connect the 90 mm capillary (part of the upgrade kit) to the filter outlet.

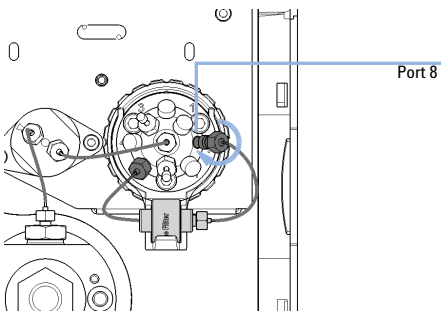
**4** Fix the inline filter to the clamp.



**5** Install the integrated capillary of the inline filter to port 5 of the Multi Purpose Valve.



**6** Install the removable capillary of the inline filter to port 8 of the Multi Purpose Valve.



## Maintenance

Use the *flush filter* function of your OpenLAB Chromatographic Data System (CDS) once per week to remove particles loose from the frit ring.

It is recommended to monitor the backpressure of routine applications.

Replace the frit ring if the backpressure is 10 % above the regular value and the *flush filter* function is not able to reduce the pressure significantly.

### NOTE

A clogged frit contributes to carryover and retention time shifts.

### CAUTION

Leaks or damage to filter parts

→ Detach the removable capillary from the 1290 Infinity inline filter before opening the filter housing. Leaving the capillary connected may result in leaks or damage to filter parts.

## Consumables and Spare Parts

p/n	Description
5023-0271	Frit 0.3 µm for inline filter, 5/pk
5500-1242	Capillary ST 0.12 mm ID, 30 mm length rigid
5500-1243	Capillary ST 0.12 mm ID, 50 mm length, long socket



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Agilent Technologies, Inc  
Hewlett-Packard-Strasse 8  
76337 Waldbronn, Germany