Agilent 1290 Infinity Autosampler

Installation of the Large Volume Injection Kit

General Information

This note describes how to install the large volume injection kit into an Agilent 1290 Infinity Autosampler.

The large volume injection kit can be installed into an Agilent 1290 Infinity Autosampler with the 20 µL default factory or 40 µL analytical head.

With the kit you can add a maximum of 80 µL to the original injection volume of 20 µL (default loop capillary installed) or 40 µL, respectively (using loop 40 µL (p/n 5067-4703)).

The total injection volume increases up to 100 µL or 120 µL depending on the original loop size.

NOTE The hydraulic volume of the autosampler is increased when using the extension seat capillaries from the multi-draw kit. When calculating the delay volume of the autosampler you have to add the volume of 160 µL. The delay volume can be reduced by switching the injection valve of the autosampler to bypass mode once the sample has reached the head of the column, see your User Manual for more information.

Agilent Technologies

Software Requirements and Performance Specifications

Software Requirements

The extension seat capillary is supported by OpenLAB CDS A.01.03

- ChemStation Edition Rev. C.01.03
- EZChrom Edition Rev. A.04.03

Performance Specifications

Table 1 Large Volume Injection Kit

Type	Specification
Pressure Operating range	0 – 120 MPa (0 – 1200 bar, 0 – 17404 psi)
Injection range	0.1 – 100 µL
Injection range (if 40 µL loop capillary is installed)	0.1 – 120 µL
Precision	Equal to the standard configuration, typically <0.25 % RS of peak areas from 10 – 80 µL

Delivery Checklist

Make sure all parts and materials have been delivered with the upgrade kit. The delivery checklist is shown in Table 2 on page 3. Please report missing or damaged parts to your local Agilent Technologies sales and service office.

Table 2 Injection Upgrade Kit G4216-68711

Quantity	p/n	Description
1	G4216-90000	1290 Infinity 1200 bar Multi-draw Tech Note ENG
1	G4226-87303	Extension Seat Capillary, 80 µL, 0.5 mm ID (0.9 mm OD)

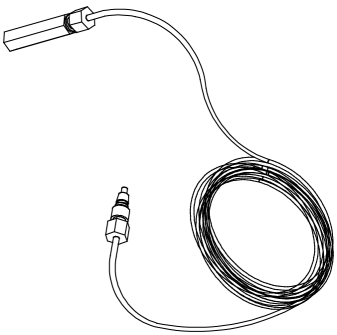


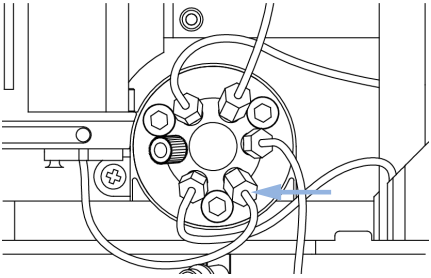
Figure 1 Extension Seat Capillary, 80 µL

Installing the Large Volume Injection Kit

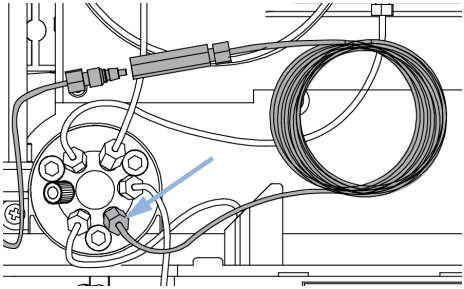
Tools required	p/n	Description
Wrench, 1/4 inch		¼ inch wrench (one supplied in the autosampler accessory kit)

1 Open the front cover.

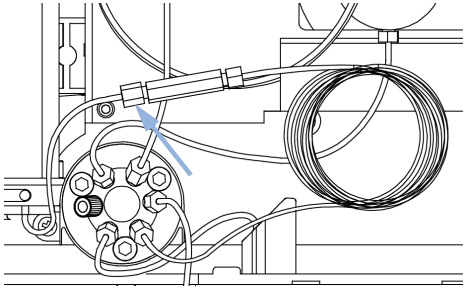
2 Disconnect the seat capillary fitting from the injection valve (port 5).



3 Install the 80 µL seat extension loop (longer side) to the injection valve (port 5).



4 Install the seat capillary and the other side of the seat extension capillary. Store the extension capillary in the leak tray.



5 Close the front cover.

Configuring the Controller

The configuration of your controller is necessary to enable the multi-draw mode. When setting an injection larger than the configured injection volume the multi-draw mode is active. In multi-draw operation, several maximum loop fillings are drawn and ejected to the seat capillary where they are stored in the extension seat capillary prior to switching the injection valve for transferring the total injection volume into the solvent stream.

Configuring the ChemStation

1. Select **Instrument configuration** in the **instrument function**.
2. **Configure HiP ALS**.
3. In the **HiP autosampler configuration** menu change seat capillary to the value of the installed extended seat capillary 80 µL and press **OK**.

Configuring the Instant Pilot

1. In the **startup** screen select **More > Configure**.
2. Then select **Autosampler** and specify the Volume of the installed seat capillary.

Example for a multi-draw injection

Configuration	1290 Infinity Autosampler with 20 µL loop capillary installed
Injection Volume	65 µL
Injection Mode	Injection with needle wash

It is recommend using the following settings especially draw speed and eject speed to achieve best results and a reasonable execution duration.

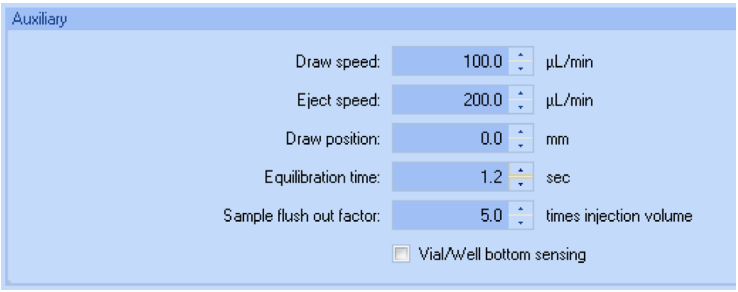


Figure 2 Auxiliary

The Autosampler will do the following steps to perform a multi-draw injection of 65 µL volume. This is also the workaround if the control software doesn´t support this seat capillary setting.

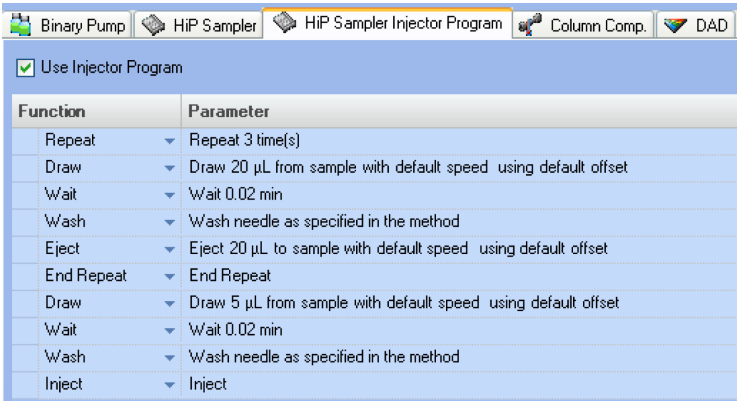


Figure 3 Autosampler Injection Program

Figure 3 on page 7 shows an injector program which contains the steps the injector will follow when performing a multi-draw injection.

This injector program can also be used as a workaround if your control software does not support the necessary seat capillary configuration setting.

The typical duration time for a multi-draw injection with three draw cycles is less than 2 min.

G4216-90000

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