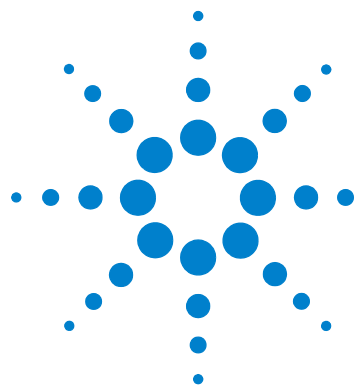




# Agilent 1290 Infinity

## 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  $\mu\text{L}$  default factory or 40  $\mu\text{L}$  analytical head.

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

The total injection volume increases up to 100  $\mu\text{L}$  or 120  $\mu\text{L}$  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  $\mu\text{L}$ . 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

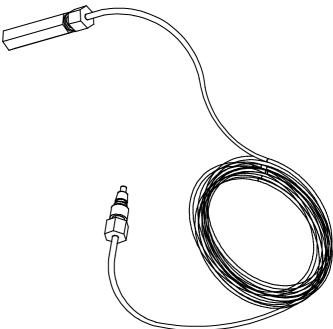
| Type                                                   | Specification                                                                              |
|--------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 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<br><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

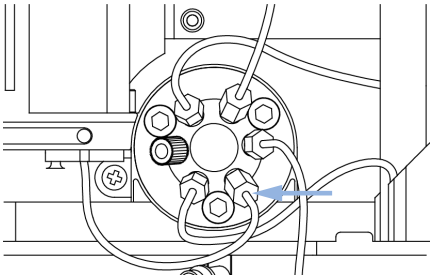
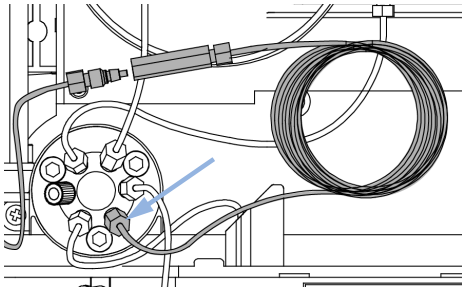
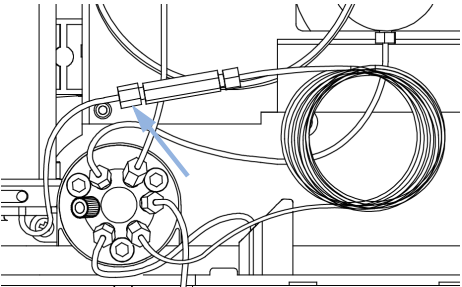
| Quantity | p/n         | Description                                            |
|----------|-------------|--------------------------------------------------------|
| 1        | G4216-90000 | 1290 Infinity 1200 bar Multi-draw Tech Note ENG        |
| 1        | G4226-87303 | Extension Seat Capillary, 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) |     |             |

|                                                                                                                                                                                         |                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>1</b> Open the front cover.</p>                                                                                                                                                   | <p><b>2</b> Disconnect the seat capillary fitting from the injection valve (port 5 ).</p>                                                        |
| <p><b>3</b> Install the 80 µL seat extension loop (longer side) to the injection valve (port 5 ).</p>  | <p><b>4</b> Install the seat capillary and the other side of the seat extension capillary. Store the extension capillary in the leak tray.</p>  |
| <p><b>5</b> Close the front cover.</p>                                                                                                                                                  |                                                                                                                                                                                                                                    |

## 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  $\mu\text{L}$  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  $\mu\text{L}$  loop capillary installed

Injection Volume    65  $\mu\text{L}$

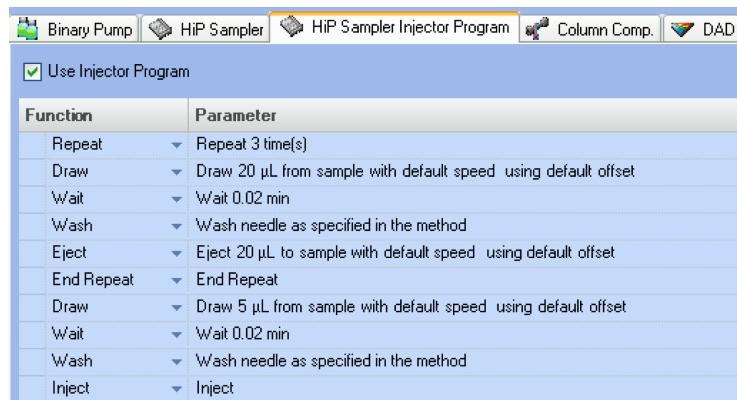
Injection Mode      Injection with needle wash

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

|                                                   |       |                          |
|---------------------------------------------------|-------|--------------------------|
| Draw speed:                                       | 100.0 | $\mu\text{L}/\text{min}$ |
| Eject speed:                                      | 200.0 | $\mu\text{L}/\text{min}$ |
| Draw position:                                    | 0.0   | mm                       |
| Equilibration time:                               | 1.2   | sec                      |
| Sample flush out factor:                          | 5.0   | times injection volume   |
| <input type="checkbox"/> Vial/Well bottom sensing |       |                          |

**Figure 2**      Auxiliary

The Autosampler will do the following steps to perform a multi-draw injection of 65  $\mu\text{L}$  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

Part Number:  
G4216-90000

Edition: 01/2012  
Printed in Germany

© Agilent Technologies, Inc 2012

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