Capillary Inlet on a 6820 GC, Accessory G4311A

Installation Guide

This installation guide provides procedures for installing a capillary inlet on an Agilent 6820 Gas Chromatograph (GC). Before following these procedures, review safety information at the end of this document.

Parts list

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hex nut with lock washer M4 3.2 mm</td>
<td>2</td>
</tr>
<tr>
<td>Screw M4 12 mm</td>
<td>4</td>
</tr>
<tr>
<td>Plastic washer</td>
<td>3</td>
</tr>
<tr>
<td>Chrome plated screw M4 12 mm</td>
<td>2</td>
</tr>
<tr>
<td>Lower insulation cover</td>
<td>1</td>
</tr>
<tr>
<td>Capillary cup insulation</td>
<td>1</td>
</tr>
<tr>
<td>Nutwarmer cup assembly</td>
<td>1</td>
</tr>
<tr>
<td>Insulation</td>
<td>1</td>
</tr>
<tr>
<td>Capillary cup insulation bottom</td>
<td>1</td>
</tr>
<tr>
<td>Capillary cup insulation top</td>
<td>1</td>
</tr>
<tr>
<td>Capillary inlet stick for flow module - English</td>
<td>1</td>
</tr>
</tbody>
</table>
Tools

- Electrostatic protection such as a grounded wrist strap
- 7-mm nut driver
- T-20 Torx screwdriver

Configuration considerations

To achieve a standard factory configuration, it may be necessary to move an already existing inlet. For a two-inlet configuration, the factory placement rule is as follows:

- A Packed inlet, if present, is always placed in the front location.

Steps

1  Preparing the GC
2  Installing the Inlet
3  Installing the Flow Control Module Assembly
4  Installing the Insulation Cup
5  Restoring the GC to Operating Condition
Preparing the GC

**WARNING** Hazardous voltages are present in the mainframe when the GC is connected to electrical power. Avoid potentially dangerous shock hazards by disconnecting the power cord before removing the side panels.

1. Switch off electrical power to the GC and disconnect the power cord. Allow time for the oven and heated zones to cool. Then switch off supply gases at their sources.
2. Remove column(s) and any associated hardware from inside the column oven.
3. Lift the hinged GC top cover at its front edge to expose the detector area. Remove the cover by raising it to vertical, lifting its left hinge pin from its bracket, and then sliding the cover to the left to free its right hinge pin.
4. Remove the inlet cover by removing its three screws.
5. Remove two screws along the lower edge of the left side (flow control) panel. Slide the panel slightly to the rear and lift it off.

**CAUTION** Electronic components can be damaged by static electricity; use a properly grounded static control wrist strap when removing the electronics panel.

6. In the same manner, remove two screws along the lower edge of the right side (electronics) panel. Slide the panel slightly to the rear and lift it off.
7. Remove the back panel by removing two screws at its bottom edge, loosening two screws at its top edge, and the lifting off the two top screws.
8. Finally, remove the rear top cover by removing four screws, two at each end.
At this time, if necessary to achieve a standard factory configuration, completely remove and reinstall an existing inlet into its required location. If an existing inlet is being completely replaced by this new inlet, carefully store the old inlet assembly and all associated parts in a safe place for possible future use.

Installing the Inlet

**CAUTION**

GC insulation is made of refractory ceramic fibers. Ventilate your work area. Wear long sleeves, gloves, safety glasses, and a disposable dust/mist respirator. Dispose of unneeded insulation in a sealed plastic bag.

1. If the cover plate is present, remove it from the chosen inlet mounting location. Remove enough insulation to allow the inlet body to fit.
2 Plug the opening at the inlet bottom (column connection) to prevent contamination.

3 While positioning the inlet into the cavity, use both supplied insulation and removed oven insulation to pack around the bottom and sides of the inlet. The goal is to fill all voids around the inlet body as it is placed into the cavity. Secure the inlet into the oven top with two screws.

4 From the left side of the GC, connect the inlet heater/sensor plug to the square receptacle closest to the installed inlet ("FI" for front inlet, or "BI" for back inlet).
Installing the Flow Control Module

This section describes installation of the inlet flow control module.

**CAUTION**
It is neither necessary nor advisable to separate an inlet from its flow control module as doing so may cause leaks. Although handling the inlet and connected flow module as a unit is awkward, it can be managed.

1. Determine the correct location for the inlet flow control module:
   - **Inlet in the front position**— use the upper inlet flow control module location.
   - **Inlet in the back position**— use the lower inlet flow control module location.

**CAUTION**
Handle the module carefully to avoid damaging its components and/or connected tubing.

2. Remove the existing inlet label plate from the module location to be used and install the new one provided.

3. Route tubing alongside existing tubing and wiring located behind the oven top and through to the front panel location to be used for the flow control module. Avoid making sharp bends in the tubing.

4. There are threaded studs on the back of the main flow panel for installing the inlet flow module. Place three plastic spacers onto the studs. Place the flow module assembly onto the studs and secure it loosely at this time with hex nuts started onto each stud.
5 Use Torx screws to secure the back portion of the module and split vent trap bracket, then use a 7-mm nut driver to fully tighten previously-started nuts.

6 From the left side of the GC, route the inlet purge valve cable and its plug to the rectangular receptacle closest to the installed inlet ("FV" for front inlet purge valve, or "BV" for back inlet purge valve).
7 Secure the inlet chemical filter into the filter bracket.

8 Refer to your *Getting Started* manual for proper swage techniques to connect a carrier gas supply to the installed inlet flow module.

**Installing the Insulation Cup**

1 Place insulation sections into the insulation cup.

2 From inside the oven, loosely install two heat-resistant screws in cutouts adjacent to the inlet. Do not tighten the screws at this time.
3 Push the insulation cup over the inlet column fitting until it is flush with the oven top and rotate it until its slots are located over the screws. Tighten the screws with a Torx T-20 screwdriver to secure the cup.

Restoring the GC to Operating Condition

1 Restore gas supplies and, following leak test procedures described in your Maintenance and Troubleshooting manual, check for leaks, particularly at all new connections.

2 Reinstall GC covers and panels.

3 Restore GC electrical power.

4 Configure the inlet.
   a Press [Config] on the keyboard.
   b Select Instrument, then F inlet type or B inlet type.
   c Press [Mode/Type].
   d Select Split/Splitless Inlet.
   e Press [Enter] to complete the configuration.

5 Switch off electrical power, then switch it on again to ensure the new configuration is properly retained in GC memory.
6  See your *Operation* manual with respect to properly reconfiguring the GC for the installed inlet.

7  Verify inlet operation by following an appropriate checkout procedure described in your *Getting Started* manual.
Safety Notices

**CAUTION**

A **CAUTION** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a **CAUTION** notice until the indicated conditions are fully understood and met.

**WARNING**

A **WARNING** notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a **WARNING** notice until the indicated conditions are fully understood and met.