Agilent 490 Micro GC
Internal and External Mount
Genie Filter Brackets

Installation

The Genie Filter Bracket kits include mounting hardware to install a sample line filter on an Agilent 490 Micro GC. Agilent supplies mounting hardware to install the filter either on the back of the GC or inside the GC right panel.

Accessory Kits

One external mount and four internal mount accessory kits are available:

<table>
<thead>
<tr>
<th>Kit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP741527</td>
<td>External bracket</td>
</tr>
<tr>
<td>G3581-60038</td>
<td>Internal bracket</td>
</tr>
<tr>
<td>G3581-60039</td>
<td>Internal bracket for 1 Genie 170 filter for sample inlet 1, preassembled</td>
</tr>
<tr>
<td>G3581-60040</td>
<td>Internal bracket for 1 Genie 170 filter for sample inlet 2, preassembled</td>
</tr>
<tr>
<td>G3581-60041</td>
<td>Internal bracket for 2 Genie 170 filters, preassembled</td>
</tr>
</tbody>
</table>

Inspect the Shipping Container

Inspect the shipping carton carefully for damage or signs of rough handling. Report any damage to the carrier and to your local Agilent sales office. Do not open if you suspect damage to the accessory.
## Parts Supplied

### Table 1  Parts supplied per accessory

<table>
<thead>
<tr>
<th>Part number</th>
<th>Description</th>
<th>G3581-60038</th>
<th>G3581-60039</th>
<th>G3581-60040</th>
<th>G3581-60041</th>
<th>CP741087</th>
</tr>
</thead>
<tbody>
<tr>
<td>G3581-00131</td>
<td>Internal bracket</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>G3581-00132</td>
<td>Relieve / Genie Filter Bracket</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>CP86755</td>
<td>Screw, M3 x 6mm RX 8.8 SV</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>CP740536</td>
<td>Flanged nut, M4</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>2</td>
</tr>
<tr>
<td>CP86736</td>
<td>Screw, M4 x 12 mm T20 Torx</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>2</td>
</tr>
<tr>
<td>CP86757</td>
<td>Screw, M4 x 8 Torx 8.8 SV</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>2</td>
</tr>
<tr>
<td>1290116500</td>
<td>Screw, 8/32 x 1/4-inch</td>
<td>–</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>VLT61C30</td>
<td>Tubing 1/16 in. 0.75mm, 61cm 316SS</td>
<td>–</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>VLZN1</td>
<td>Valco 1/16 in. SS nut</td>
<td>–</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>–</td>
</tr>
<tr>
<td>VLZF110</td>
<td>Ferrule, SS for fitting 1/16 in., 10/pk</td>
<td>–</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>–</td>
</tr>
<tr>
<td>CP741087</td>
<td>Bracket, Genie/Valco valve Micro GC</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>1</td>
</tr>
<tr>
<td>392590006</td>
<td>Genie 170 Filter, Micro GC</td>
<td>–</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>–</td>
</tr>
</tbody>
</table>
Part Identification

Figure 1 shows the parts included with the CP741527 accessory kit, external filter mount.

![Figure 1](image1.png)

- Bracket, valve CP741087
- Screw, M4 x 8 mm T2O Torx, CP86757
- Flanged nut, M4, CP740536

- Screw, M4 x 12 mm T2O Torx, CP86736
- Screw, 8/32 x 1/4-inch 1290116500

Figure 1  External bracket mounting parts (CP741527)

Figure 2 shows the brackets used for an internal filter mount.

![Figure 2](image2.png)

- Bracket, G3581-00131
- Filter bracket G3581-00132

Figure 2  Internal bracket mounting parts (used with G3581-60039, G3581-60040, and G3581-60041)
Figure 3 shows the Genie 170 Filter for the Micro GC.
Tools Required

- T10 and T20 Torx driver
- Flathead screw driver
- 3/16-inch open-end wrench
- 5/16-inch open-end wrench
- 1/4-inch open-end wrench
- 7/16-inch open-end wrench

Information

**CAUTION**

Never transport the Micro GC with an external valve mounted in the bracket! Before transporting the GC, remove the valve from the bracket.

A Field Case does not permit mounting of an external valve. If using a Field Case for the Micro GC, you must mount the Genie filter internally.
Installation of External Genie Filter Bracket

The Genie Filter Bracket (CP741527) mounts a Genie filter 170 or a valve on the 490 Micro GC. During installation, refer to the parts shown in Figure 1.

1. Prepare the Micro GC. Cool all heated zones, then turn off the instrument.
2. At the back of the Micro GC, use a Torx-20 screwdriver to remove the two screws shown below.

Figure 4  Remove two screws from back panel
3 Mount the bracket to the GC using the two M4 x 12 mm screws provided.

Figure 5  Bracket shown installed, with filter

4 Mount the Genie Filter 170 to the bracket using two pan head screws (1290116500). See Figure 5.
5 Mount an external valve to the side of the bracket as shown in Figure 6. Use the included flanged M4 nuts and M4 x 8 mm screws (CP86757).

Figure 6 Bracket shown installed with filter and valve
Installation of Internal Genie Filter Brackets

The internal mount Genie Filter Brackets allow you to mount one or two Genie filters inside the 490 Micro GC in the sample 1 and sample 2 positions. Kit G3581-60038 provides only the mounting hardware. The other kits come partially preassembled, with one or more filters installed at the factory.

During installation, refer to the parts shown in Figure 2 on page 3.

1. Prepare the Micro GC. Cool all heated zones, then turn off the instrument.

2. Lower the right side cover.

3. From the right side of the Micro GC, use a Torx-20 screwdriver to remove the top left M4 x 8 mm screw (CP86757) shown in Figure 7. Loosen the two screws at the bottom of the open area.

Figure 7  Remove three screws
4 For units with a heated sample line: Remove the top and side insulation from the heated sample line to expose the internal sample inlet.

![Figure 8](image.png) Lift the top insulation from the heated sample line

5 Disconnect each channel’s sample line from the hexagonal sample-in manifold.

   **NOTE:** For older GC’s, loosen the two T10 Torx screws on either side of the internal sample inlet connector (elbow fitting) one turn (do not remove). Rotate the sample inlet connector 90° counter-clockwise and remove.

   a Remove the T10 Torx screw that secures the hexagonal sample-in manifold.

   b Carefully lift the heated sample bracket to expose the sample-in manifold.

   c If needed, temporarily label each sample line connected to the hexagonal sample-in manifold. Then, use an adjustable wrench and a 3/16-inch wrench to remove each sample line from the sample-in manifold.
6 Feed each sample line through the appropriate slot in the bottom bracket (G3581-00131).

7 Reconnect the sample lines to the sample-in manifold and reassemble the heated sample line box.

8 **G3581-60038 only**: Assemble the bottom bracket (G3581-00131) and sample inlet box as shown in Figure 9 below, then secure in place using the three screws previously removed.

![Bottom bracket installed](image)

**Figure 9** Bottom bracket installed
9 **G3581-60038 only**: Assemble the bracket (G3581-00132) onto the bottom bracket using a M3 x 6 screw (CP86755).

![Assembled brackets installed, no filters shown](image)

**Figure 10**  Assembled brackets installed, no filters shown

10 **G3581-60039, G3581-60040, G3581-60041 only**: Assemble the sample inlet oven box and filter bracket assembly into the GC. (See **Figure 11** for an example.) Secure in place using the three screws previously removed
Filter Installation

For kit G3581-60038, the filters, tubing, and fittings are not supplied.

Mount each filter to the bracket using two pan head screws (1290116500).

![Image of filter installation]

**Figure 11**  Install the Genie filter (left, right, or both)

For kits G3581-60039, G3581-60040, and G3581-60041, the filters come assembled to the brackets.
Gas Connections

Connect the Genie filters to the Micro GC as described below. Accessory kits G3581-60039, G3581-60040, and G3581-60041 come with preassembled filters, tubing, and connectors. For kit G3581-60038 you must purchase the tubing and connectors needed to make the connections.

Connecting the Genie filters to the sample input fittings requires 1/16-inch stainless steel tubing and 1/16-inch zero dead volume fittings. If tubing assemblies were not supplied in your kit:

- Use a high-quality tubing cutter. For a good seal, avoid deforming the tubing ends.
- Avoid sharp bends in the tubing. Sharp bends can deform the tubing and restrict flow.

For each sample inlet, connect the filter as follows:

1. For GCs with a heated sample line, remove the top insulation from the internal heated sample line box.
2. Disconnect the rear bulkhead fitting line from the sample input fitting.
3. Connect the line from the rear bulkhead fitting to the bottom of the Genie filter.

![Figure 12 Genie filter gas connections](image)

OUTLET
BYPASS
To GC sample input fitting
Bypass flow outlet
Sample input
4 Connect the Genie filter sample outlet to the GC’s internal sample input fitting.

![Figure 13 Plumbing a filter to a sample input](image)

5 Connect the filter bypass outlet to a safe vent location in accordance with your SOPs and local environmental regulations (for example, to a fume hood). The bypass line carries residual sample gas. (See Figure 14.)
6 For a heated sample line, reinstall the insulation.
7 Connect the sample line to the rear sample inlet of the 490 Micro GC using 1/16-inch Swagelok fittings.
8 Restore the GC to operating condition.
Warranty

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