

TRACE 1300/1310: Packed Column Adapters Kit for Gas Sampling Valve (GSV) - Installation Guide

This guide provides instructions for installing the adapters for connecting 1/8-inch or 1/16-inch OD metal packed columns to the bottom of the Gas Sampling Valve (GSV) injector, FID, NPD, ECD, TCD, and FPD detectors.

The adapters are provided with the kit P/N 19050762.



WARNING Do not try to connect packed columns if the lengths of the column ends above the end of the ferrule are not compatible with the adapters. In this case we suggest to connect a new packed column by using the nuts and ferrules provided with the kit.

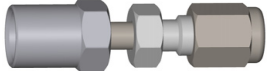
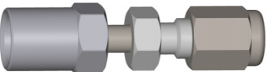
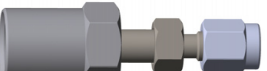
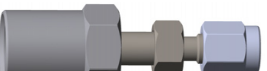


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Introduction

The kit includes the following parts:

Table 1. Packed Column Adapters

Part	Description
	Adapter for the connection of the 1/8-inch OD packed column to the GSV injector.
	Adapter for the connection of the 1/8-inch OD packed column to the FID, NPD, ECD, TCD, or FPD detector.
	Adapter for the connection of the 1/16-inch OD packed column to the GSV injector.
	Adapter for the connection of the 1/16-inch OD packed column to the FID, NPD, ECD, or FPD detector.
	1/2-inch wrench.
	Open-Ended, 1/4-5/16-inch wrench.

Install the column adapters following the instructions in the next operating procedures:

- “To install the packed column adapters” on page 2
- “To connect a new packed column to the GSV injector and detector adapters” on page 3

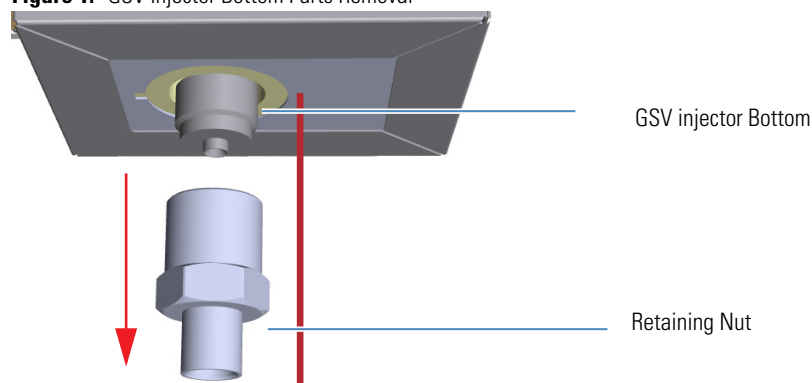
❖ To install the packed column adapters

1. Put the GC in standby condition.
2. Cool the oven and injector to room temperature.
3. Turn the carrier gas off, and wait for the carrier pressure to go to zero.

Note By pressing the **Maintenance** button, the GC cool down is automatically carried out.

4. Remove the analytical column.
 - a. Open the front door of the GC.
 - b. Loosen the retaining nut from the injector and detector fitting on the upper interior wall of the GC oven.
 - c. Remove the analytical column with its nut and ferrule from the bottom of the injector and the detector.
5. Remove the bottom parts of the GSV injector. See [Figure 1](#).

Figure 1. GSV Injector Bottom Parts Removal



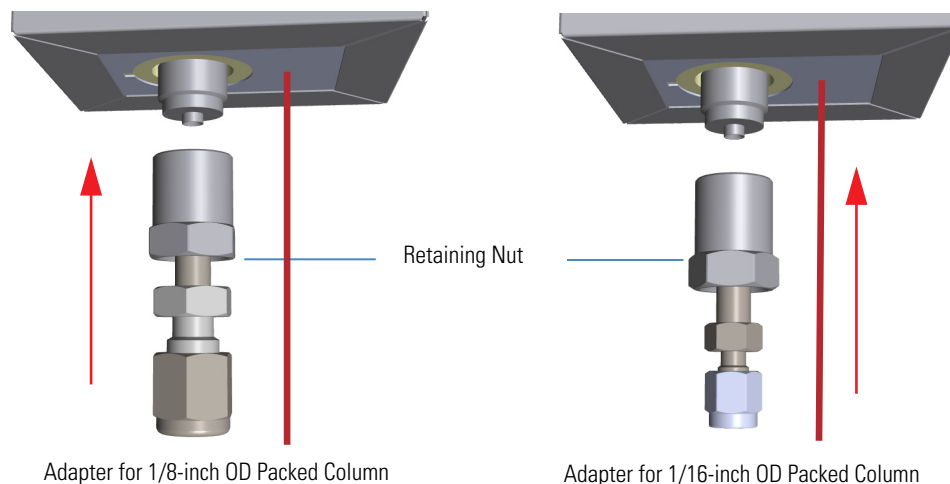
- a. Using the 1/2 wrench provided, unscrew the retaining nut from the bottom of the GSV injector.



CAUTION Save the bottom parts of the GSV injector in a safe place because will be reused when you restore the original configuration for capillary columns.

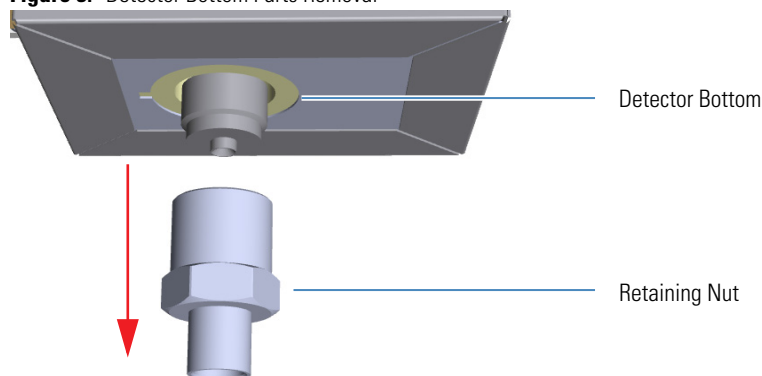
6. Install the adapter on the bottom the GSV injector. See [Figure 2](#).

Figure 2. Adapter Installation on GSV Injector Bottom



- a. Finger-tighten the retaining nut of the adapter until it start to grip the bottom of the GSV injector.
 - b. Use the 1/2 wrench to firmly tighten the retaining nut of the adapter with the base seal from the bottom of the injector.
7. Remove the bottom parts of the FID, NPD, ECD, TCD, or FPD detector. See [Figure 3](#).

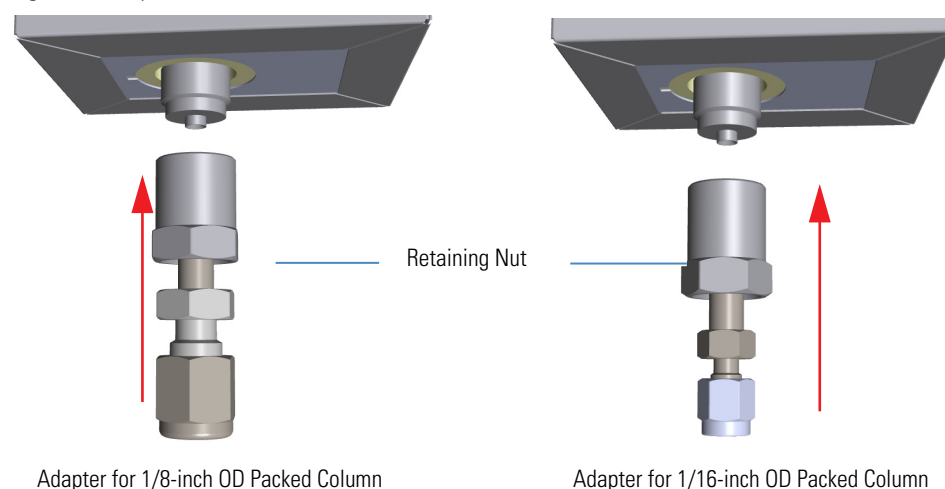
Figure 3. Detector Bottom Parts Removal



Note Save the bottom parts of the detector in a safe place because will be reused when you restore the original configuration for capillary columns.

- a. Using the 1/2 wrench provided, unscrew the retaining nut from the bottom of the detector.
8. Install the adapter on the bottom the detector. See [Figure 4](#).

Figure 4. Adapter Installation on the Bottom of the Detector



- a. Finger-tighten the retaining nut of the adapter until it start to grip the bottom of the detector.
- b. Use the 1/2 wrench to firmly tighten the retaining nut of the adapter with the base seal from the bottom of the injector.

❖ **To connect a new packed column to the GSV injector and detector adapters**

Before you begin, verify that the proper adapters are installed on the injector and detector side.

1. Preparing the metal packed column.
 - a. Using a 1/4-5/16-inch wrench, remove the column nut and ferrules from the base of the GSV injector adapter.
 - b. Using a 1/4-5/16-inch wrench, remove the column nut and ferrules from the base of the detector adapter.
 - c. Slide the column nut and the ferrules onto the packed column injector and detector ends in the order and direction as shown in the [Figure 5](#) and [Figure 6](#).

Figure 5. Column Nut and Ferrules (1)

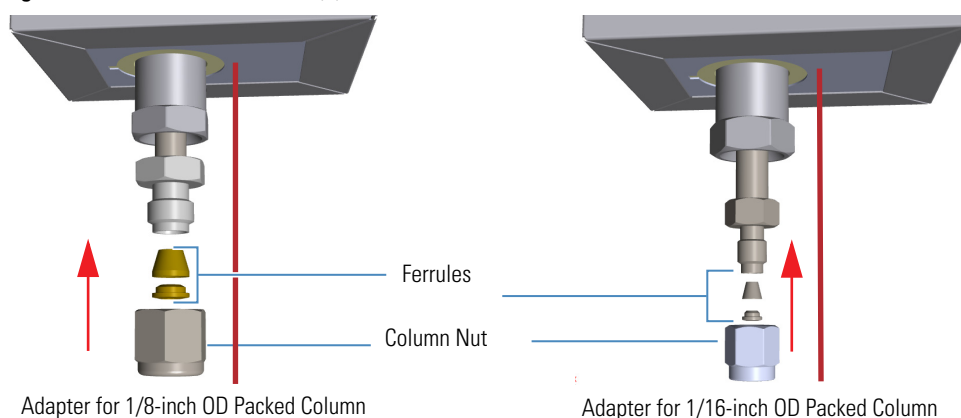
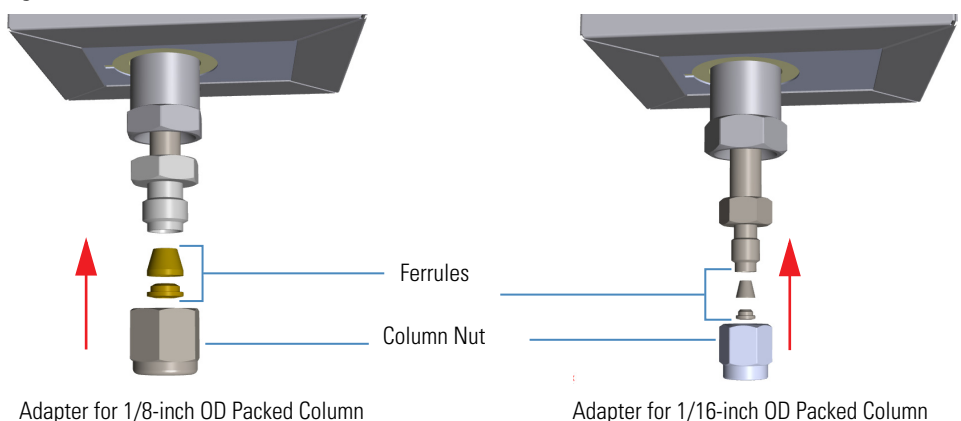


Figure 6. Column Nut and Ferrules (2)



2. Connect the packed column to the GSV injector.
 - a. Insert the inlet end of the column as far as possible into bottom of the adapter.
 - b. Slide the ferrule up to adapter base then finger-tighten the column retaining nut until it starts to grip the column.
 - c. Finger-tighten the retaining nut until it starts to grip the column plus a quarter turn.
3. Close the front door of the GC.
4. Turn on the gas supplies and the injector temperature.
5. Setup the GC.
 - a. Set the oven and injector temperature to 50 °C.
 - b. Allow the column to purge for few minutes.
6. Condition the column.

The column must be conditioned before inserting it into the detector. Column conditioning consists of passing a carrier gas flow through the column heated at a programmed temperatures as described in the *column manufacturer's instructions*. In case the column does not have any column conditioning instructions, perform the column conditioning by setting a final temperature up to 10 °C - 20 °C below its recommended maximum temperature.



CAUTION When performing column conditioning, the column should be connected only to the injector leaving the column outlet disconnected to avoid the possibility of contamination of the detector.

Do not use hydrogen as the carrier for conditioning! It could vent into the oven and present an explosion hazard.