

# TRACE 1300/1310 GC: In-Series Connection TCD Module Installation Note

This note provides instruction for installing and connecting the TCD module (P/N 19070045) in-series with a second detector installed on the TRACE 1300/1310 GC, or to the methanizer in case of the TRACE 1310 Auxiliary Oven.

The TCD in-series module is provided with the kit P/N 19070045.

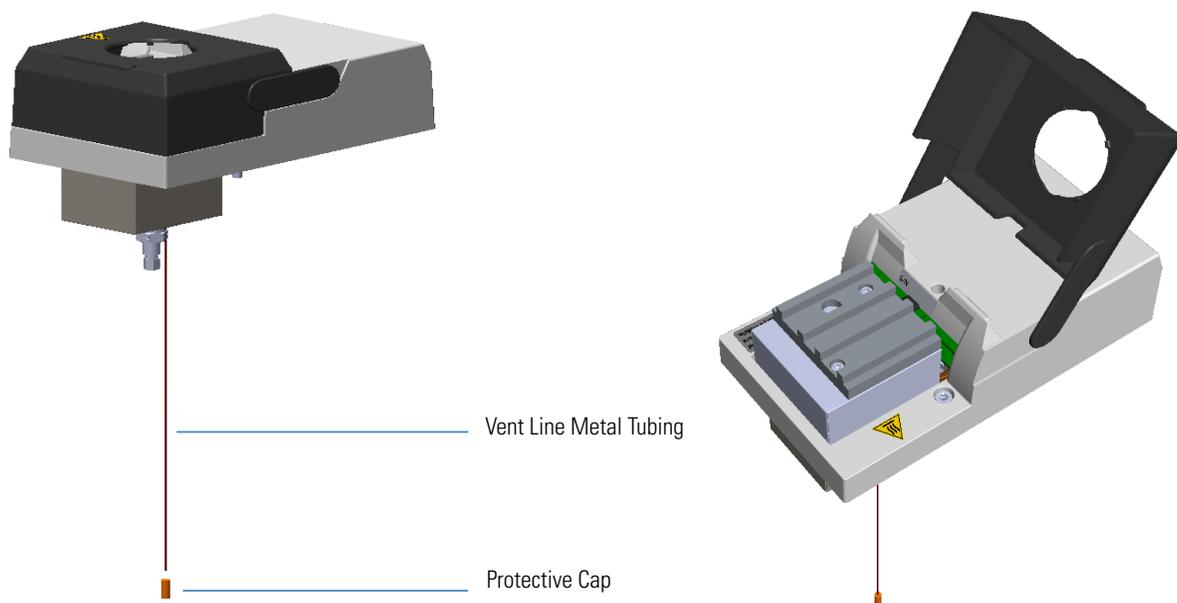
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## Introduction

The vent outlet of the in-series TCD module protrudes by a metal tubing (vent line) inside the GC oven to allow further connection to a second detector or to a methanizer. See [Figure 1](#).

**Figure 1.** TCD Module for In-Series

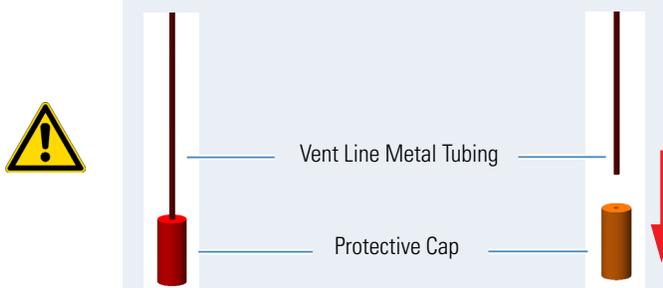


**Note** For the description, parameters, checkout, installation, and maintenance of the TCD module, refer to the *TRACE 1300/1310 User Guide* and *TRACE 1300/1310 Hardware Manual*. For the installation on the *TRACE 1310 Auxiliary Oven Instruction Manual*.

## In-Series TCD Connection into the GC Oven

## In-Series TCD Connection to the Methanizer

**CAUTION** Before installing the TCD In-Series module, remove the protective cap from the end of the vent line metal tubing.



**IMPORTANT** Make sure that the vent line metal tube end is perfectly straight

### ❖ To connect the TCD module in-series to a second detector module into the GC oven

When the TCD In-Series module is inserted into its position on the upper deck of the GC, the vent line metal tubing protrudes into the GC oven.

1. Close the front door of the GC.
2. Being careful not to create too narrow angles, bend the vent line metal tubing until its end reaches the bottom of the second detector.
3. Like as an analytical column, insert the vent line metal tubing through the proper detector retaining nut and ferrule.
4. Position the vent line metal tubing so that the end of the tubing extends the proper distance above the end of the ferrule as reported in [Table 1](#).

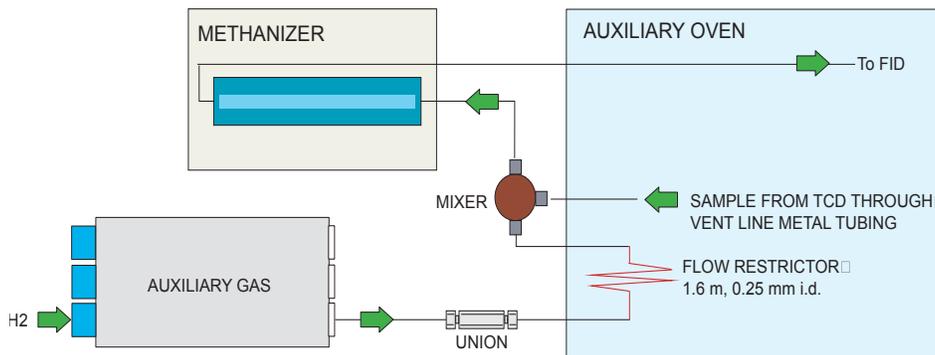
**Table 1.** Insertion Depth For FID, NPD, TCD, ECD, and FPD Detectors

| FID                                                          | NPD | TCD | ECD   | FPD    |
|--------------------------------------------------------------|-----|-----|-------|--------|
| Insert the column as far as goes and withdrawn about 2 -3 mm |     |     | 21 mm | 125 mm |

### ❖ To connect the TCD module in-series to the methanizer into the TRACE 1310 Auxiliary Oven

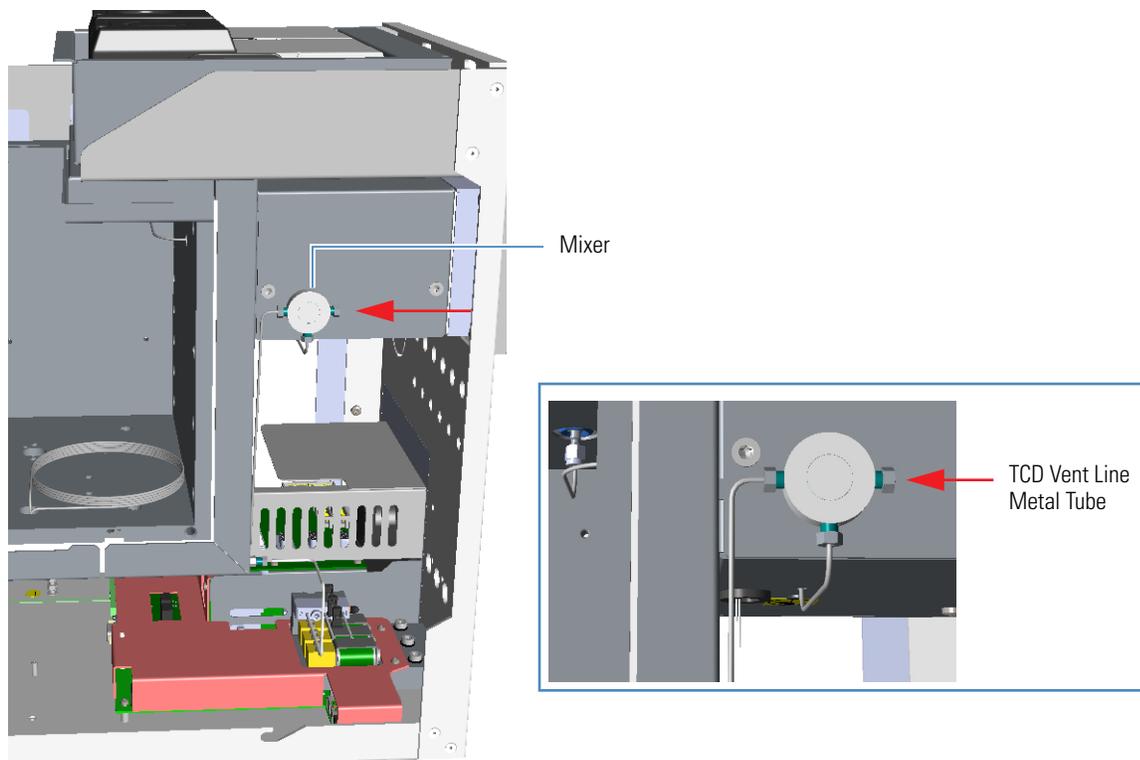
The pneumatic circuit is schematically represented in [Figure 2](#).

**Figure 2.** Pneumatic Circuit



1. Carefully bend and guide bend the vent line metal tubing of the TCD until its end reaches the mixer mounted on the wall of the methanizer assembly. See [Figure 3](#).

**Figure 3.** Vent Line Metal Tube Connection

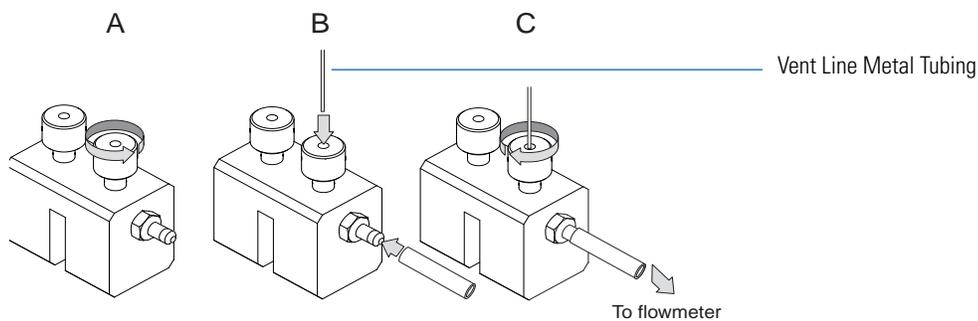


2. Connect the vent line metal tubing to the mixer by using the proper detector retaining nut and ferrule.
3. Insert the analytical column into the TCD bottom as reported in the previous [Table 1](#).

## Measuring the Carrier Gas Flow Rate

While the measuring of the carrier gas flow rate through the standard TCD detector is performed simply connecting the flow-meter to the vent outlet, the TCD In-series detector requires the use of the column- flowmeter connector. Carefully push the vent line metal tubing end into the flow meter section of the column- flowmeter connector. See [Figure 4](#).

**Figure 4.** Column Flowmeter Connector



Connect the flowmeter to the dedicated fitting on the column-flowmeter connector, then measure the carrier gas flow rate.