

Restek Supplies &  
Accessories

# Analyze CO and CO<sub>2</sub> at ppb Levels Easily and Accurately

## Using a Restek Methanizer (CH<sub>4</sub>izer)

- Cost-effective trace analysis of CO and CO<sub>2</sub>.
- Simple, reliable operation.
- Keeps maintenance time to a minimum.
- Highly accurate thermal control.



**RESTEK**

Pure Chromatography

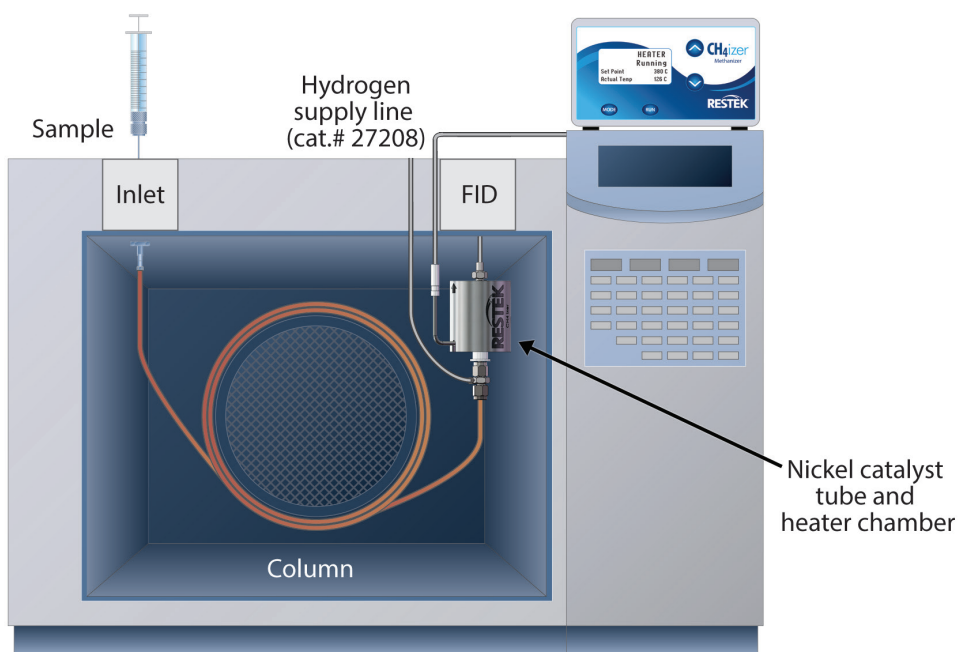
[www.restek.com](http://www.restek.com)

# Analyze CO and CO<sub>2</sub> at ppb Levels Easily and Accurately with a Restek Methanizer

Trace-level detection of CO and CO<sub>2</sub> is critical for many applications, but it can be problematic by GC. Detection limits are often limited to high ppm levels by traditional techniques, such as GC-TCD, or require expensive and difficult-to-operate detectors. The use of a methanizer is a well-established technique that overcomes these limitations and provides ppb-level determination of CO and CO<sub>2</sub> using a cost-effective GC-FID instead of more expensive instrumentation. Restek's methanizer (CH<sub>4</sub>izer) is less cumbersome than other models, and it is designed for easy installation and fast catalyst tube replacement so you spend more time analyzing samples and less time on maintenance.

- Allows ppb-level GC-FID determination of CO and CO<sub>2</sub> without expensive equipment.
- Precise temperature control ensures complete conversion of CO and CO<sub>2</sub> to CH<sub>4</sub>.
- Simple, reliable operation—factory-set temperature (380 °C) can be adjusted with just the touch of a button.
- Convenient installation kit includes all parts needed for quick installation.
- Fast, easy catalyst tube replacement keeps maintenance time to a minimum.
- Compatible with capillary, packed, and micropacked columns.

**The Restek methanizer installs securely into the oven of any Agilent or Thermo TRACE 1300/1310 GC. The catalyst tube, located in the heater chamber, is easily accessible and can be replaced quickly with minimal downtime.**



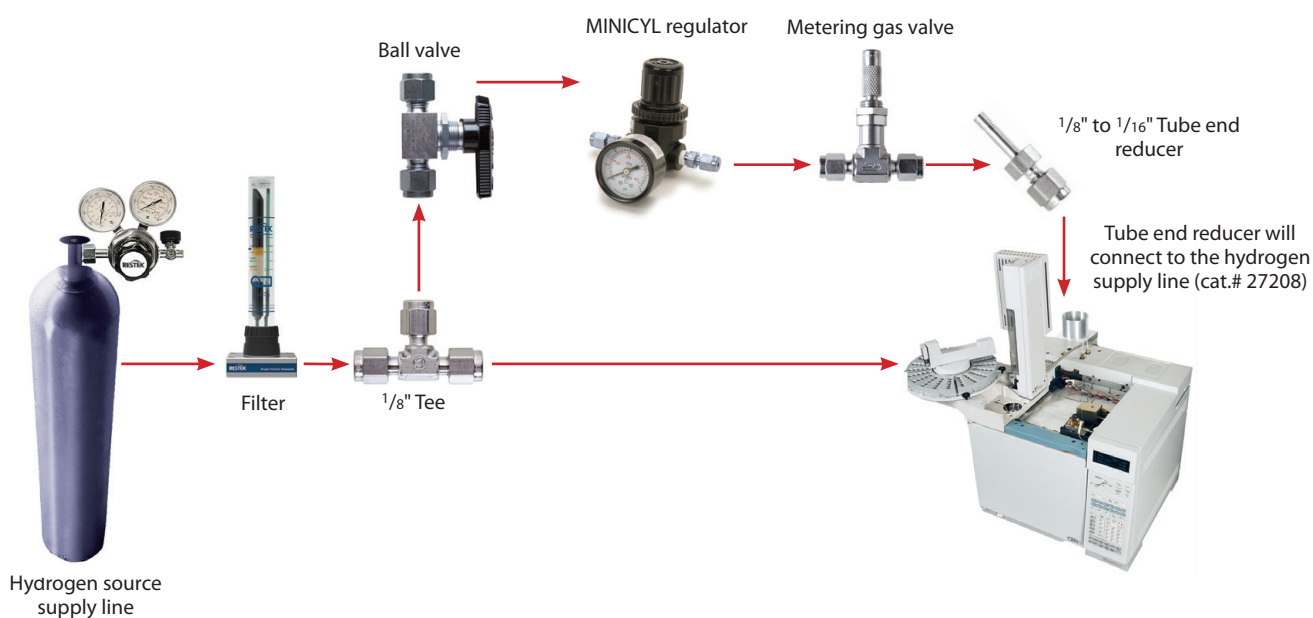
## How Does It Work?

When a sample is injected into a GC, it is first separated on the analytical column. Once it elutes from the column, it flows into the methanizer, where it passes over a hot nickel catalyst in the presence of hydrogen. This converts each molecule of carbon monoxide (CO) or carbon dioxide (CO<sub>2</sub>) into a molecule of methane (CH<sub>4</sub>), which is readily detected by the FID.



Since both reactions are most efficient near 380 °C, the Restek methanizer comes conveniently factory preset to 380 °C. However, this temperature set point can be adjusted by the operator using buttons on the methanizer control box, if a different temperature is desired.

**From tee to tubing, Restek's optional installation kit provides everything you need to properly plumb hydrogen into your methanizer.**



## Methanizer (CH<sub>4</sub>izer)

- Allows ppb-level GC-FID determination of CO and CO<sub>2</sub> without expensive equipment.
- Precise temperature control ensures complete conversion of CO and CO<sub>2</sub> to CH<sub>4</sub>.
- Simple, reliable operation—factory-set temperature (380 °C) can be adjusted with just the touch of a button.
- Convenient installation kit (sold separately) includes all parts needed for quick installation.
- Fast, easy catalyst tube replacement keeps maintenance time to a minimum.
- Includes methanizer control box, country-specific power cord, heater chamber, catalyst tube, hydrogen supply line, transition tubing, adaptor for capillary FID, adaptor for packed FID, 1/8" Swagelok nut and ferrules, and right angle wrench.



### Specifications

Input Power Rating: 100-240 VAC, 50/60 Hz, 2.0 A  
 Operating Temperature Range for Control Box: 32–120 °F (0–48 °C)  
 Operating Temperature Range for Catalyst and Heater Chamber Assembly: 350–450 °C (factory preset at 380 °C)  
 Controller Temperature Accuracy: ± 1 °C  
 Warranty: 1 year  
 Certifications: CE  
 Compliance: WEEE, RoHS, China RoHS2  
 Indoor Use Only

Description	Instrument	qty.	cat.#
Methanizer, power cable for U.S./Japan	for Agilent GC-FIDs	kit	22650-US
Methanizer, power cable for Europe	for Agilent GC-FIDs	kit	22650-EU
Methanizer, power cable for Australia	for Agilent GC-FIDs	kit	22650-AU
Methanizer, power cable for United Kingdom	for Agilent GC-FIDs	kit	22650-UK
Methanizer, power cable for China	for Agilent GC-FIDs	kit	22650-CN
Methanizer, power cable for U.S./Japan	for Thermo TRACE 1300/1310 GCs	kit	22651-US
Methanizer, power cable for Europe	for Thermo TRACE 1300/1310 GCs	kit	22651-EU
Methanizer, power cable for Australia	for Thermo TRACE 1300/1310 GCs	kit	22651-AU
Methanizer, power cable for United Kingdom	for Thermo TRACE 1300/1310 GCs	kit	22651-UK
Methanizer, power cable for China	for Thermo TRACE 1300/1310 GCs	kit	22651-CN

### Replacement Parts / Supplies / Accessories for Methanizers

Description	qty.	cat.#
Installation Kit for Methanizer (includes: 1/8" Stainless-steel metering gas valve, 10' x 1/8" 304 stainless-steel gas supply line (rinsed and cleaned), 1/8" Swagelok tee union, 1/8"–1/16" tube end reducer, 1/8" stainless-steel Swagelok ball shutoff valve, MINICYL regulator with 1/8" fittings)	kit	27213
Hydrogen Supply Line	ea.	27208
Catalyst Tube	ea.	27209
Heater Chamber	ea.	27210
Adaptor for Capillary FID	ea.	27211
Adaptor for Packed FID	ea.	27212



27210



27208

Order today! [www.restek.com/CH4izer](http://www.restek.com/CH4izer)

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