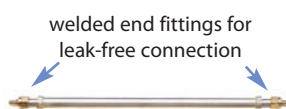




Single-Tube Model



Dual-Tube Model

Dimensions: 13" x 1/2"  
(33 x 1.3 cm)**Thermal Gas Purifier\***

- Removes oxygen, water, carbon monoxide, carbon dioxide, hydrocarbons (except methane) to ppb levels—pure enough for MS.
- Packed with reactor-grade, pure getter material for maximum efficiency and no contamination.
- Welded end-fittings on getter tubes eliminate leaks.
- Each tube has 12L oxygen and 35L water vapor capacity.
- Maximum flow: 1 liter/minute.

The getter material in Restek's re-engineered line of thermal gas purifiers reacts chemically with impurities in the carrier gas stream. Because the reaction is nonreversible, there is no possibility of contaminants breaking through the thermal gas purifier.

Gas purification is very economical when you use a thermal gas purifier. Getter tubes normally require changing only once per year; heavy use or very impure feed gas may require more frequent getter tube replacement.

Restek Single-Tube Thermal Gas Purifier, 110 Volt (1 tube included)**	qty.	cat.#
1/8" Fittings	ea.	21496
1/4" Fittings	ea.	21497
Restek Dual-Tube Thermal Gas Purifier, 110 Volt (2 tubes included)**	qty.	cat.#
1/8" Fittings	ea.	21498
1/4" Fittings	ea.	21499
Replacement Getter Tube	qty.	cat.#
1/8" Fittings (Similar to Supelco part# 2-2396)	ea.	21661
1/4" Fittings (Similar to Supelco part# 2-2398)	ea.	21660

\*Use with helium or nitrogen carrier gas only. Do not use with hydrogen, oxygen, or air—a violent reaction and/or fire will occur.

\*\*Single-tube model dimensions: 15" x 7" x 6" (38 x 17.8 x 15.2 cm). Dual-tube model dimensions: 15" x 10" x 6" (38 x 25.4 x 15.2 cm).

## did you know?

Getter material is the physical material placed in a vacuuming tube that binds residual gases to the surface, maintaining or increasing the vacuum.



Always know the status of the Thermal Gas Purifier getter tube: change tube when pressure drops.

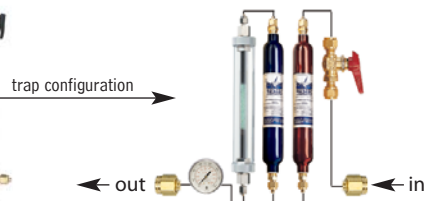
**Gas Pressure Gauge Kit**

- Use an in-line pressure gauge to indicate when the Thermal Gas Purifier getter tube should be replaced.
- Includes 1/8" tee and 0–100 psi (0–689kPa) gauge.

Description	qty.	cat.#
In-line Gas Pressure Gauge Kit for Thermal Gas Purifiers	kit	21657

**Restek Gas Management System**

- Removes moisture, hydrocarbons, and oxygen from carrier gas, extending column lifetime.
- Produces high-purity carrier gas for most applications.
- Includes one each: moisture, hydrocarbon, and indicating oxygen trap.
- Replacing traps is safe and easy.
- Maximum flow: 1 liter/minute.

Dimensions: 12" x 14" x 3"  
(30.5 x 35.6 x 7.6 cm)

## did you know?

The Restek Gas Management System removes water vapor (to 10ppb), hydrocarbons (to 0.1ppm), and oxygen (to less than 0.1ppm) with three traps housed in one unit.

Description	qty.	cat.#
Restek Gas Management System (includes fittings for 1/8" and 1/4" gas line)	ea.	21999
Replacement Traps	qty.	cat.#
High-Capacity Moisture Trap, 1/8" Nickel-Plated Brass Fittings	ea.	21997
Capillary-Grade Hydrocarbon Trap, 1/8" Nickel-Plated Brass Fittings	ea.	21991
Indicating Oxygen Trap, 1/8" Nickel-Plated Brass Fittings	ea.	22010

**Super-Clean™ Gas Filters**

- High-purity output ensures 99.9999% pure gas (at max. flow of 2L/min.).
- “Quick connect” fittings for easy, leak-tight cartridge changes.
- Glass inside to prevent diffusion; polycarbonate housing outside for safety.

**Designed for fast, simple cartridge changing**

Cartridge systems make changing gas filters quick and easy, and Super-Clean™ gas filters are the latest in cartridge-style gas filtration. A base plate allows cartridges to be exchanged without introducing oxygen, moisture and hydrocarbons. Spring-loaded check valves seal when a filter is removed and open only when a new filter has been locked in place. There is no longer a need for loosening and tightening fittings every time a trap is changed, and your system will not become contaminated during the process.

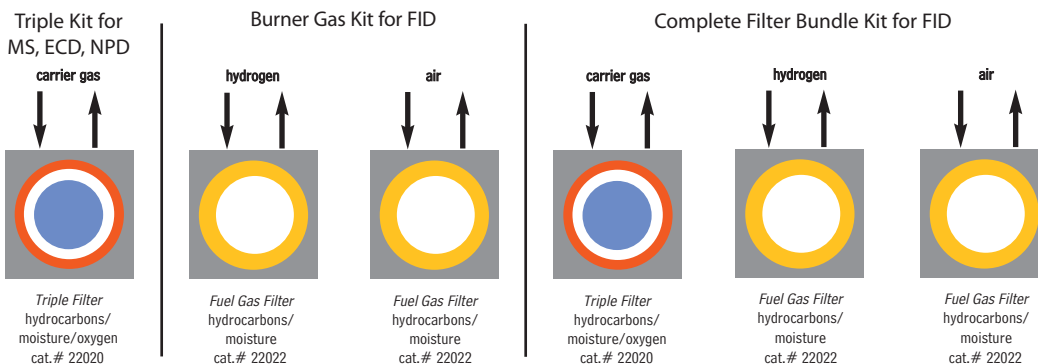
With available 2- or 3-position base plates, you can purify all GC gas streams at one location. Figure 1 shows some possible filter cartridge combinations using these base plates. Any combination is possible because any Restek Super-Clean™ gas filter cartridge can be used with any Restek base plate.

**High-purity output for improved sensitivity (Table I)**

The Triple Gas Filter cartridge (cat.# 22020) is ideal for purifying carrier gas. This trap contains oxygen, moisture, and hydrocarbon scrubbers and indicators for oxygen and moisture in one cartridge. The purity of your carrier gas after flowing through the Triple Gas Filter is better than six-9s (99.9999% pure at max. flow of 2L/min.), which is ideal for sensitive mass spectrometry (MS) or ECD analyses, and for protecting your analytical columns against damage from contaminated carrier gas.

The Fuel Gas Filter cartridge (cat.# 22022) is perfect for purifying flame ionization detector (FID) fuel gases, removing both moisture and hydrocarbons. Using the Fuel Gas Filter for FID hydrogen and air will produce a stable baseline, improving overall reproducibility and sensitivity.

**Figure 1** Filter cartridges can be configured for different applications.



**Table I** Each Super-Clean™ gas filter provides high-purity outlet gas.

Type of Filter	Outlet Gas Quality (%)	Maximum Pressure/ Maximum Flow Rates	Use for:	Indicator Color Change	Capacity			Estimated Lifetime (years)
					H <sub>2</sub> O (g)	O <sub>2</sub> (mL)	Hydrocarbons (g)	
Moisture cat.# 22028	>99.9999	11 bar 159psi/ 7 L/min.	Inert carrier gas Air Hydrogen	Yellow/orange to clear	7.2	—	—	>2
Oxygen cat.# 22029	>99.9999	11 bar 159psi/ 7 L/min.	Inert carrier gas	Green to grey	NA	1000	—	>2
Hydrocarbons cat.# 22030	>99.9999	11 bar 159psi/ 7L/min.	Inert carrier gas Air Hydrogen	No indicator	NA	—	12 <sup>3</sup>	>2
Fuel Gas <sup>1</sup> cat.# 22022	>99.9999	11 bar 159psi/ 7L/min.	Inert carrier gas Air Hydrogen	Yellow/orange to clear	3.5	—	24 <sup>3</sup>	>1.5
Triple <sup>2</sup> cat.# 22020	>99.9999	11 bar 159psi/ 7L/min.	Inert carrier gas	Yellow/orange to clear Green to grey	1.8	500	4 <sup>3</sup>	>1
Helium Specific <sup>2</sup> cat.# 21982	>99.9999	11 bar 159psi/ 7L/min.	Helium	Yellow/orange to clear Green to grey	1.8	500	—	>1

<sup>1</sup>Removes hydrocarbons, moisture.

<sup>2</sup>Removes hydrocarbons, moisture, oxygen.



**did you know?**

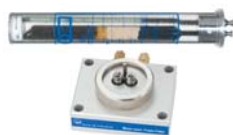
All Super-Clean™ gas filter cartridges (except hydrocarbon filter cat.# 22030) feature easy-to-read indicators. The indicator code is shown on every trap so there is no confusion about when to replace it.

**tech tip**

**Oxygen and Moisture Traps**  
Restek highly recommends oxygen and moisture traps for make-up gas when operating sensitive detectors such as electron capture detectors (ECD). The hydrogen reaction gas for sensitive electrolytic conductivity detectors (ELCD) also requires a hydrocarbon trap, to remove trace impurities.

**Super-Clean™ gas filters are listed on pages 234 and 235.**

# Super-Clean™ Gas Filters and Base Plates



All traps measure:  
10<sup>5</sup>/<sub>8</sub>" x 1<sup>3</sup>/<sub>4</sub>" (27 x 4.4 cm)  
Each base plate unit  
measures:  
4" x 4" x 1<sup>7</sup>/<sub>8</sub>"  
(10.2 x 10.2 x 4.8 cm)

## Super-Clean™ Gas Filter and Base Plate Kits

Description	qty.	cat.#
Carrier Gas Cleaning Kit (includes mounting base plate, 1/8" inlet/outlet fittings, and oxygen/moisture/hydrocarbon Triple Gas Filter)	kit	22019
Fuel Gas Purification Kit (includes mounting base plate, 1/8" inlet/outlet fittings, and hydrocarbon/moisture Fuel Gas Filter)	kit	22021

## Replacement Gas Filters

Description	qty.	cat.#
Replacement Triple Gas Filter (removes oxygen, moisture and hydrocarbons)	ea.	22020
Replacement Fuel Gas Filter (removes moisture and hydrocarbons)	ea.	22022

## Gas Filter Bundle Kit

- Ideal for use in combination with 3-position base plate—purchase separately.

Description	qty.	cat.#
Gas Filter Bundle Kit	kit	22031

## Super-Clean™ Ultra-High Capacity Gas Filters

Description	qty.	cat.#
Ultra-High Capacity Hydrocarbon Filter	ea.	22030
Ultra-High Capacity Moisture Filter	ea.	22028
Ultra-High Capacity Oxygen Filter	ea.	22029

## Helium-Specific Super-Clean™ Gas Filter and Kit

- Specifically designed for purification of helium in GC/MS systems.
- Traps are packed and conditioned using helium.
- Uses standard single-position base plate.

Description	qty.	cat.#
Helium-Specific Carrier Gas Cleaning Kit (includes mounting base plate, 1/8" inlet/outlet fittings, and oxygen/moisture/hydrocarbon Helium-Specific Filter)	kit	21983
Replacement Helium-Specific Gas Filter (removes oxygen, moisture and hydrocarbons)	ea.	21982

## Filter Base Plates

- Standard base plate fittings are 1/8". To adapt to 1/4", order 1/8" to 1/4" tube-end unions.
- Base plates fit all Super-Clean™ gas filters listed above.

Description	qty.	Brass	new! Stainless Steel
		cat.#	cat.#
Single-Position Filter Base Plate	ea.	22025	ea. 22344
2-Position Filter Base Plate	ea.	22026	ea. 22345
3-Position Filter Base Plate	ea.	22027	ea. 22346

## Wall Mounting Bracket

- Base plates can be mounted by using screws and the mounting holes on the base plate, or by using this optional wall mounting bracket.

Description	qty.	cat.#
Wall Mounting Bracket for Super-Clean™ Base Plates	ea.	21984

## Replacement O-Rings for Cartridge Base Plates

- Pack includes 10 large O-rings and 10 small O-rings.

Description	qty.	cat.#
Replacement O-Rings for Cartridge Base Plates	20-pk.	22023

## 1/8-Inch to 1/4-Inch Tube-End Unions

- To adapt 1/8" Super-Clean™ base plate fittings to 1/4", use 1/8" to 1/4" tube-end unions.

Description	qty.	Brass	Stainless Steel
		cat.#	cat.#
1/8" to 1/4" Tube-End Unions	5-pk.	21833	2-pk. 21933

## Super-Clean™ Gas Trapping System for LC/MS

### Quick-change cartridge system for removing hydrocarbon impurities from nitrogen

- Changing filters is quick and easy.
- Up to 20L of hydrocarbon-free nitrogen per minute.

The Super-Clean™ Gas Trapping System is the latest technology in cartridge-style gas filtration for purifying nitrogen, and is ideal for use in LC/MS systems. The two-position base plate (installed in the gas line) allows cartridges to be exchanged without introducing oxygen into the system. Spring-loaded check valves seal when a cartridge is removed and open only when a new cartridge has been locked in place. There is no need for loosening and tightening fittings every time you change cartridges, and your system cannot become contaminated during the changing process.

To meet the high flow needs of the LC/MS system, the activated charcoal-filled cartridges are positioned and connected in parallel. The incoming gas stream is split equally between the cartridges, and the two streams are rejoined after purification but before the gas exits the base plate. This approach allows longer contact between the nitrogen and the adsorbent, ensuring higher gas purity and eliminating a potential source of contaminants to your analyses.

A handy date wheel, included with the system, indicates the cartridge installation date and the recommended replacement date. A special particle filter is included with the high flow base plate to be installed at the gas outlet. This exchangeable particle cup filter has a nominal pore size of 0.5µm and is recommended to be used to help remove potential dust from the charcoal, which could enter into the nebulizer gas stream and possibly damage the LC/MS system.

**Table I** Super-Clean™ Gas Filters provide high-purity outlet gas

Type of filter	Max. Flow	Outlet Gas Quality %	Maximum Pressure	Estimated Lifetime
Hydrocarbon (charcoal)	20L/min.	99.9999%	11 bar/159psi	3 to 6 months

## Super-Clean™ Gas Trapping System for LC/MS

Description	qty.	cat.#
Super-Clean™ Gas-Trapping System (2-position base plate, 2 charcoal filters)	ea.	22062
2-Position Base Plate (1/4" Fittings) for use with hydrocarbon filters (cat.# 22061)	ea.	22060
Replacement Hydrocarbon (Charcoal) Filters	2-pk.	22061



20L of purified nitrogen per minute!



Stephanie Sunner & Tim Herring

### a plus 1 story

"West Coast companies often have to deal with East Coast companies closing by 2:00 pm Pacific time and grumpy people itching to leave. Not so with Restek! When I called at 2:55 pm (Pacific) on a Friday, Stephanie was kind enough to not only answer my questions, but forward me immediately to Tim at technical service so that I could catch him before he left - and then stayed late to help me set up an account. Tim deserves kudos, too, for not only being extremely friendly, but also being able to identify a part with no serial number and a label from a different company! Awesome service!"

**Tim S.**, Research Scientist, a West Coast pharmaceutical company

### also available

#### Looking for a nitrogen generator for your LC/MS?

Restek offers a full line of Parker LC/MS generators. See [page 245](#).



## Super-Clean™ Click-On Purification Gas Traps

### Click-On Inline Super-Clean™ Purification Gas Traps

- High-purity output ensures 99.9999% pure gas.
- Click-On fittings for easy, leak-tight cartridge changes; brass or stainless steel, 1/4" or 1/8".
- Helium-Specific Triple Gas Trap is ideal for GC/MS.

Using the same features and benefits as the Super-Clean™ base-plates and filters (page 234), Click-On adaptor connectors allow cartridges to be exchanged without introducing oxygen, moisture, and hydrocarbons. Spring-loaded check valves seal when a filter is removed and open only when a new filter has been locked in place. There is no need for loosening and tightening fittings every time a gas trap is changed, and your system will not become contaminated during the process.

The Triple Gas Trap is ideal for purifying carrier gas—it contains oxygen, moisture, and hydrocarbon scrubbers in one cartridge.

The Fuel Gas Trap is ideal for purifying flame ionization detector (FID) fuel gases, removing both moisture and hydrocarbons.

The Helium-Specific Triple Trap is ideal for purifying helium in GC/MS systems. This gas trap is packed and purged under helium and contains oxygen, moisture, and hydrocarbon scrubbers in one cartridge.

Trap replacement depends on the quality of the incoming gas. Use the double connector and install an indicating cartridge after a trap to indicate when the trap should be replaced.

Click-On Traps measure:  
8 1/2" x 1 1/4" (21.6 x 3.2cm)



Filter Type	Gas Quality at Outlet	Maximum Pressure	Maximum Flow (L/min.)	Use For	H <sub>2</sub> O (g)	Capacity O <sub>2</sub> (mL)	Hydrocarbons <sup>3</sup> (g)	Estimated Lifetime (years)
Moisture cat.#22467	>99.9999	11 bar 160psi	25	Inert carrier gas, helium, air, H <sub>2</sub>	15	NA	NA	>3
Oxygen cat.#22468	>99.9999	11 bar 160psi	25	Inert carrier gas	NA	2000	NA	>3
Hydrocarbon cat.#22466	>99.9999	11 bar 160psi	25	Inert carrier gas, helium, air, H <sub>2</sub>	NA	NA	24	>3
Fuel Gas <sup>1</sup> cat.#22465	>99.9999	11 bar 160psi	25	Inert carrier gas, helium, air, H <sub>2</sub>	7	NA	12	>2
Triple <sup>2</sup> cat.#22464	>99.9999	11 bar 160psi	25	Inert carrier gas	4	1000	8	>2

<sup>1</sup>Removes hydrocarbons, moisture.

<sup>2</sup>Removes hydrocarbons, moisture, oxygen.

<sup>3</sup>As *n*-butane.

NOTE: Super-Clean™ Gas Filters are recommended for purifying noncorrosive gases with low concentrations of contaminants. The maximum concentration of oxygen in the incoming gas stream for oxygen purifiers is 0.5%.

### Click-On Inline Super-Clean™ Gas Traps and Connector Kits

Description	qty.	cat.#
Carrier Gas Purification Kit, 1/8" Stainless Steel Includes (2) 1/8" SS connectors and (1) oxygen/moisture/hydrocarbon triple trap	kit	22456
Carrier Gas Purification Kit, 1/8" Brass Includes (2) 1/8" brass connectors and (1) oxygen/moisture/hydrocarbon triple trap	kit	22457
Carrier Gas Purification Kit, 1/4" Stainless Steel Includes (2) 1/4" SS connectors and (1) oxygen/moisture/hydrocarbon triple trap	kit	22458
Carrier Gas Purification Kit, 1/4" Brass Includes (2) 1/4" brass connectors and (1) oxygen/moisture/hydrocarbon triple trap	kit	22459
Fuel Gas Purification Kit, 1/8" Stainless Steel Includes (4) 1/8" SS connectors and (2) hydrocarbon/moisture traps	kit	22460
Fuel Gas Purification Kit, 1/8" Brass Includes (4) 1/8" brass connectors and (2) hydrocarbon/moisture traps	kit	22461
Fuel Gas Purification Kit, 1/4" Stainless Steel Includes (4) 1/4" SS connectors and (2) hydrocarbon/moisture traps	kit	22462
Fuel Gas Purification Kit, 1/4" Brass Includes (4) 1/4" brass connectors and (2) hydrocarbon/moisture traps	kit	22463



## Click-On Inline Super-Clean™ Replacement Gas Traps

Description	qty.	cat.#
Click-On Super-Clean™ Replacement Triple Trap (removes oxygen, moisture and hydrocarbons)	ea.	22464
Click-On Super-Clean™ Replacement Fuel Gas Trap (removes moisture and hydrocarbons)	ea.	22465

## Click-On Inline Super-Clean™ Ultra-High Capacity Gas Traps

Description	qty.	cat.#
Ultra-High Capacity Hydrocarbon Trap	ea.	22466
Ultra-High Capacity Moisture Trap	ea.	22467
Ultra-High Capacity Oxygen Trap	ea.	22468

## Helium-Specific Click-On Inline Super-Clean™ Gas Trap and Connector Kits

Description	qty.	cat.#
<b>Kits</b>		
Helium-Specific Carrier Gas Cleaning Kit, 1/8" Stainless Steel Includes (2) 1/8" SS connectors and (1) oxygen/moisture/hydrocarbon helium-specific triple trap	kit	22469
Helium-Specific Carrier Gas Cleaning Kit, 1/8" Brass Includes (2) 1/8" brass connectors and (1) oxygen/moisture/hydrocarbon helium-specific triple trap	kit	22470
Helium-Specific Carrier Gas Cleaning Kit, 1/4" Stainless Steel Includes (2) 1/4" SS connectors and (1) oxygen/moisture/hydrocarbon helium-specific triple trap	kit	22471
Helium-Specific Carrier Gas Cleaning Kit, 1/4" Brass Includes (2) 1/4" brass connectors and (1) oxygen/moisture/hydrocarbon helium-specific triple trap	kit	22472
<b>Replacement Trap</b>		
Helium-Specific Replacement Triple Trap (removes oxygen, moisture and hydrocarbons)	ea.	22473

## Click-On Inline Super-Clean™ Indicator

- Oxygen: Green to Grey
- Moisture: Beige to Clear

Description	qty.	cat.#
Click-On Inline Super-Clean™ Indicator (oxygen, moisture)	ea.	22474

## Click-On Inline Super-Clean™ Connectors

- Click-On connectors allow you to change traps quickly, without introducing oxygen into your system.

Description	qty.	cat.#
1/8" Brass Click-On Inline Super-Clean™ Connectors	2-pk.	22475
1/8" Stainless Steel Click-On Inline Super-Clean™ Connectors	2-pk.	22476
1/4" Brass Click-On Inline Super-Clean™ Connectors	2-pk.	22477
1/4" Stainless Steel Click-On Inline Super-Clean™ Connectors	2-pk.	22478

## Click-On Inline Super-Clean™ Double Connector

- Connects any Click-On trap to a Click-On indicator.

Description	qty.	cat.#
Click-On Inline Super-Clean™ Double Connector, stainless steel	ea.	22479

## Wall-Mounting Clamps for Click-On Inline Super-Clean™ Gas Traps

Description	qty.	cat.#
Wall-Mounting Clamps for Click-On Inline Super-Clean™ Gas Traps	4-pk.	22480

## Replacement O-Rings for Click-On Inline Super-Clean™ Connectors

- Pack includes 10 large O-rings and 10 small O-rings.

Description	qty.	cat.#
Replacement O-Rings for Click-On Inline Super-Clean™ Connectors	20-pk.	22481



### did you know?

Helium-Specific Click-On Inline Super-Clean™ Gas Trap and Kits are designed specifically for purification of helium in GC/MS systems!



### tech tip

Install an indicator after the Click-On inline gas filter so there is no confusion about when to replace the traps.



Each connector is 2 3/8" (6cm) in length.



Each double connector is 3" (8cm) in length.



## Gas-Specific Purifier Modules

### VICI® Mat/Sen® Gas-Specific Purifier Modules

- Replace separate oxygen, moisture, and hydrocarbon traps with one multiple-bed purifier, specific for purifying helium, hydrogen, nitrogen, or air.
- Reduce gas impurities from ppm to low ppb levels.
- Decrease baseline noise and increase GC/MS sensitivity.
- Prepurged with the specified gas, to shorten downtime.



Dimensions: 21" x 1 1/2"  
(53.3 x 3.8 cm)

These gas-specific purifier modules offer dramatic reductions in contaminant levels—from ppm to levels that are below the limit of standard analytical detection. Performance is optimized by incorporating a multiple-bed format that progressively lowers concentrations of contaminants at each successive bed. VICI® Mat/Sen® purifiers are guaranteed to produce gases that are purer than 99.9999%, when supplied with gas of 99.995% purity, and are prepurged with the specified gas to speed conditioning. Purifier capacity is approximately four tanks of gas at 99.995% (50ppm) purity, and correspondingly longer for purer gases.

#### Specifications:

Length	21" (52.3cm)	Pressure Drop from 120psi (827 kPa) inlet at at 0-500mL/min.:	<0.20psi (1.4kPa)
Diameter	1.5" (3.8cm)	End Fittings	compression, 1/8" or 1/4", stainless steel
Maximum Inlet Pressure	1000psi (6895kPa)	Shipping Weight	3.04 lb. (1300 g)
Maximum Recommended Flow	500mL/min.		

Please Note: We recommend using an indicating oxygen trap (e.g., cat.# 22029, pg. 234) downstream from a VICI® Mat/Sen® purifier to continually ensure gas purity and indicate absolute change-out time.

### it's a fact

The nitrogen module is excellent for LC/MS systems.

Gas-Specific Purifier Module	Max Pressure	Compression Tube Fittings			
		1/4-inch		1/8-inch	
		qty.	cat.#	qty.	cat.#
Helium Purifier Module	1000psi, 6895kPa	ea.	22600	ea.	22601
Hydrogen Purifier Module	1000psi, 6895kPa	ea.	22602	ea.	22603
Nitrogen Purifier Module*	1000psi, 6895kPa	ea.	22604	ea.	22605
Air Purifier Module	1000psi, 6895kPa	ea.	22606	ea.	22607

\*Warning: Do not use with nitrogen containing more than 500ppm of oxygen. If the oxygen level in the stream exceeds 500ppm, use an air purifier.

### a plus 1 story

"We enjoy doing business with Restek. Their technical knowledge and willingness to back their products help us to maximize the performance of our chromatography instruments."

**Jean-François Vergelin**, Département de Seine et Marne,  
Direction de l'Eau et de l'Environnement, Laboratoire  
Département d'Analyse des eaux (Melun, France)

## High-Capacity Indicating Oxygen Trap

- Indicator changes color from dark blue to black as oxygen & water are trapped.
- Lasts longer than three smaller traps.
- Use with all carrier gases.
- Ambient operating temperature, 100psi (689kPa) operating pressure.
- Built-in frit traps microparticles.
- Outlet gas purity:  $O_2 < 0.1\text{ppm}$  when inlet does not exceed 15ppm.  
 $H_2O < 0.5\text{ppm}$  when inlet does not exceed 10ppm.
- Includes cartridge housing and one cartridge.
- Maximum operating pressure: 150psi (1034kPa).
- Maximum flow: 16.5L/min.



Dimensions: 9<sup>1</sup>/<sub>4</sub>" x 2"  
(23.5 x 5.1 cm)

Description	qty.	cat.#
High-Capacity Indicating Oxygen Trap, 1/8" Compression Tube Brass Fittings	ea.	20624
High-Capacity Indicating Oxygen Trap, 1/4" Compression Tube Brass Fittings	ea.	20623
Replacement Cartridge (fits 1/4" or 1/8" housing)	ea.	20625
Replacement O-Rings (5 small O-rings and 5 large O-rings)	kit	22081



## Indicating Oxygen Trap

- Indicator changes color from light green to grey as oxygen is trapped.
- Heavy-walled glass body prevents oxygen & water infusion.
- Prepurged for fast stabilization.
- 100psi (689kPa) maximum operating pressure.
- Reduces oxygen to 0.1ppm.

Description	qty.	cat.#
Indicating Oxygen Trap, 1/8" Nickel-Plated Brass Fittings	ea.	22010
Indicating Oxygen Trap, 1/4" Nickel-Plated Brass Fittings	ea.	22011



Dimensions: 10" x 1<sup>1</sup>/<sub>4</sub>"  
(25.4 x 3.2 cm)

## High-Capacity Oxygen Trap

- Removes up to 600mg of oxygen or 2g of water.
- Long life—typically purifies more than five 200ft<sup>3</sup> cylinders.
- Reduces oxygen to 15ppb.
- Maximum operating pressure: 250psi (1724kPa).
- Flow: 3L/min. @ 32psi (221kPa).

Description	qty.	cat.#
High-Capacity Oxygen Trap, 1/8" Nickel-Plated Brass Fittings	ea.	20601
High-Capacity Oxygen Trap, 1/4" Nickel-Plated Brass Fittings	ea.	20600



Dimensions: 11" x 1<sup>1</sup>/<sub>2</sub>"  
(27.9 x 3.8 cm)

## Rechargeable Molecular Sieve S-Trap

- Traps water vapor; increases column and oxygen trap lifetime.
- Reduces baseline noise from sensitive detectors such as ECDs and mass spectrometers.
- Activated and ready to use.
- Reduces water to less than 1ppm.
- Fits in GC oven for easy thermal recharging.
- Maximum flow: 1L/min.

Description	qty.	cat.#
Rechargeable Molecular Sieve S-Trap, 1/8" Brass Fittings	ea.	20686
Rechargeable Molecular Sieve S-Trap, 1/4" Brass Fittings	ea.	20685



Dimensions: 6<sup>3</sup>/<sub>4</sub>" x 5<sup>5</sup>/<sub>8</sub>"  
(17.1 x 14.3 cm)

## tech tip

### Carrier Gas Purity

Carrier gas should contain less than 1ppm of oxygen, moisture, or other trace contaminants, to prevent column degradation, increase column lifetime, and decrease stationary phase bleed.

The expense of using high-purity gases in combination with carrier gas line purifiers will be offset by longer column lifetime and less GC maintenance.



## Moisture Traps, Hydrocarbon Traps



Dimensions: 11" x 1 1/2"  
(27.9 x 3.8 cm)

### High-Capacity Moisture Trap

- Purged with ultra-high-purity helium; ready to use.
- Reduces water to less than 15ppb.
- Maximum operating pressure: 250psi (1724kPa).
- Maximum flow: 1.25L/min.

Description	qty.	cat.#
High-Capacity Moisture Trap, 1/8" Nickel-Plated Brass Fittings	ea.	21997
High-Capacity Moisture Trap, 1/4" Nickel-Plated Brass Fittings	ea.	20638



Dimensions: 13" x 2"  
(33 x 5.1 cm)

### Indicating Moisture Trap

- Reduces water to less than 10ppb; indicator changes color from blue to pink at 5% relative humidity.
- Prepurged for fast stabilization.
- Reduces noise from high-sensitivity detectors.
- Heavy-walled glass body prevents oxygen & water infusion.
- 40µm frit prevents microparticulate damage to needle valves and flow controllers.
- Maximum operating pressure: 100psi (689kPa).

Description	qty.	cat.#
Indicating Moisture Trap, 1/8" Nickel-Plated Brass Fittings	ea.	22014
Indicating Moisture Trap, 1/4" Nickel-Plated Brass Fittings	ea.	22015



Dimensions: 11" x 1 1/2"  
(27.9 x 3.8 cm)

### Capillary-Grade Hydrocarbon Trap

- Packed with an extremely high surface area, baked coconut shell-based activated carbon.
- Purged with ultra-high-purity helium.
- Reduces organics to 0.1ppm (assuming 100ppm input).
- Maximum operating pressure: 250psi (1724kPa).

Description	qty.	cat.#
Capillary-Grade Hydrocarbon Trap, 1/8" Nickel-Plated Brass Fittings	ea.	21991
Capillary-Grade Hydrocarbon Trap, 1/4" Nickel-Plated Brass Fittings	ea.	21992



Dimensions: 9 1/4" x 2 1/4"  
(23.5 x 5.7 cm)

### Refillable Hydrocarbon Trap

- Removes trace impurities from carrier gas: reduces organics to 0.1ppm (assuming 100ppm input).
- 20µm frit prevents gas contamination by purifier particles.
- Stops carrier gas contaminants from interfering with purge & trap systems.
- Refillable and rechargeable.
- Maximum operating pressure: 250psi (1724kPa).
- Maximum flow: 1.25L/min.

Description	qty.	cat.#
Refillable Hydrocarbon Trap, 1/8" Nickel-Plated Brass Fittings	ea.	22012
Refillable Hydrocarbon Trap, 1/4" Nickel-Plated Brass Fittings	ea.	22013
Carbon Refill (two recharges)	pint	20626



Dimensions: 6 3/4" x 5 5/8"  
(17.1 x 14.3 cm)

### Hydrocarbon S-Trap

- Removes hydrocarbons and other contaminants from the gas stream.
- Reduces organics to 0.1ppm (assuming 100ppm input).
- Each trap individually activated to ensure maximum efficiency.
- Fits in GC oven for easy thermal recharging.
- Maximum operating pressure: 60psi (414kPa).

Description	qty.	cat.#
Hydrocarbon S-Trap, 1/8" Brass Fittings	ea.	22016



Dimensions: 6" x 1 3/4"  
(15.2 x 4.4 cm)

### Indicating Hydrocarbon Trap for Air Compressors

- Pass compressed air from an oil-filled air compressor through this trap, to remove oil vapors and mist.
- Indicator changes from pale pink to deep pink.

Description	qty.	cat.#
Indicating Hydrocarbon Trap for Air Compressors, 1/8" Brass Fittings	ea.	20637
Indicating Hydrocarbon Trap for Air Compressors, 1/4" Brass Fittings	ea.	20638

## High-Capacity Split Vent Trap

- Reduces the release of hazardous materials from the capillary split vent into the lab.
- Lasts approximately one month or 1,500 injections.
- Includes connecting lines and mounting kit.

Description	qty.	cat.#
High-Capacity Split Vent Trap	ea.	20698
High-Capacity Split Vent Trap	5-pk.	20699



Dimensions: 6" x 1"  
(15.2 x 2.5 cm)

## ECD Vent Trap

- Reduces the release of hazardous materials from the ECD vent into the lab.
- Includes connecting lines and mounting kit.

Description	qty.	cat.#
ECD Vent Trap	ea.	22017



Dimensions: 6" x 1"  
(15.2 x 2.5 cm)

## Replacement Chemical Traps for Agilent GCs

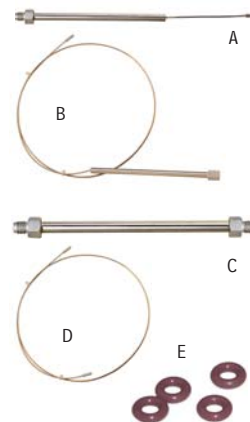
- Easy to install.
- Attach to same fittings as original equipment.
- Built-in frits retain fine particles; adsorbents remove both moisture and hydrocarbons.

Description	Similar to Agilent part #	qty.	cat.#
A) Replacement Split Vent Trap for Agilent 6890/6850 GCs	G1544-80550	ea.	22820
B) Replacement Chemical Trap for Agilent 5890 GCs	05890-61260	ea.	21610
C) Replacement Chemical Trap for Agilent 5880 GCs	19362-60500	ea.	21158
D) Split Vent Line for Agilent GCs (32-inch) (Includes all installation hardware.)	19251-80525 G1544-20620	2-pk.	22800
E) O-rings for Agilent Trap Fittings	5180-4181	25-pk.	22064
F) Optional Split Vent Trap Assembly for Agilent 6890/6850 GCs	G1544-60610	kit	23031
G) Replacement Traps (2) and O-rings (4)	G1544-80530	kit	23032



## tech tip

Eliminate ghost peaks—  
change your chemical trap  
often!



## Restek Electronic Leak Detector

- Reliable thermal conductivity leak detector.
- Responds to leaks in less than 2 seconds.
- Audible alarm plus LED readout.
- Auto zeros with the touch of a button.
- Built-in rechargeable 7.2-volt battery.

Description	qty.	cat.#
Leak Detector with 110Volt Battery Charger	ea.	22451
Leak Detector with 220Volt European Battery Charger	ea.	22451-EUR
Leak Detector with 220Volt UK Battery Charger	ea.	22451-UK



Small, compact unit—  
easy to hold and operate.

## Leak Detector Accessory Kit

The kit includes an adaptor fitting to detect leaks in hard-to-reach locations, and a mounting bracket that can be affixed to the wall or GC.



Verify hard-to-reach leaks  
with the adaptor fitting.



Leak Detector  
Accessory Kit

Description	qty.	cat.#
Leak Detector Accessory Kit (adaptor fitting for probe, mounting bracket)	kit	22453



Leak Detector is easily  
accessed when stored in  
the mounting bracket.