

**OXISORB®**

The indicating Oxisorb® I includes the same active elements as the Oxisorb® LP, HP, and HV. The Oxisorb® I offers a highly efficient and versatile means of removing many trace contaminants from a variety of pure gases. The primary difference between these devices is that the cartridge utilized in the indicating Oxisorb® is made of purex glass rather than aluminum. When the active element is saturated with oxygen, it changes from black to light brown, indicating that the cartridge needs to be replaced.

**OXISORB® I - IN LINE SYSTEM**

The Oxisorb® I system includes:

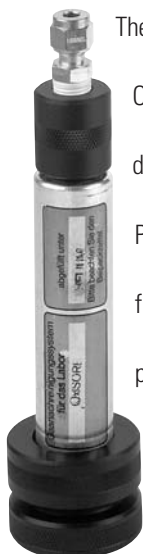
- Two end connections
- Two indicating Oxisorb® cartridges
- Lexan safety shield that slides over the cartridge
- Set of end blocks

**SPECIFICATIONS**

Maximum capacity per cartridge	3000 cu. Ft. of purified gas
Discharge gas purity	O <sub>2</sub> < 0.1 ppm where inlet does not exceed 15 ppm H <sub>2</sub> O < 0.5 ppm where inlet does not exceed 10 ppm
Operating pressure	150 PSIG maximum
Operating temperature	100°C maximum
Maximum Flow Rate	230 SCFH
Inlet/Outlet fittings	1/4" compression
Dimensions	9" L x 2" diameter at widest point
Flow Rate	35 CFH

**PRODUCT CODE****ITEM**

S512-I	Oxisorb® I with two cartridges and safety shield
S512-12C	Replacement cartridges (box of 2)

**OXISORB® LP**

The Oxisorb® LP utilizes the same cartridge as the Oxisorb® HP, differing in that the LP system is designed for a maximum operating pressure of 90 PSIG. Inlet and outlet connections utilize 1/4" tube fittings. The Oxisorb® LP system is best suited for purifying carrier gases used in chromatography applications.

**SPECIFICATIONS**

Maximum capacity per cartridge	2500 scf of purified gas
Discharge gas purity	O <sub>2</sub> < 0.1 ppm where inlet does not exceed 15 ppm H <sub>2</sub> O < 0.5 ppm where inlet does not exceed 10 ppm
Operating pressure	0 to 90 PSIG
Operating temperature	0°C to 100°C
Inlet/Outlet fittings	1/4" compression
Flow Rate	35 CFH

**PRODUCT CODE****ITEM**

S510-LP	Oxisorb® LP-with two cartridges
S510-2C	Replacement active cartridges (box of 2)

**OXISORB® HP**

The Oxisorb® HP removes trace contaminants of oxygen and water from most any gas and is unique for on-site purification. The Oxisorb® HP system consists of a stainless steel high-pressure vessel, which utilizes a replaceable and disposable cartridge of the active materials. This system removes oxygen through chemisorption on a highly active metallic surface supported on an inert base. Water is simultaneously removed by absorption via molecular sieve. The Oxisorb® HP system may be installed at the gas cylinder or used as an integral part of the user's apparatus. Excessive purging of connecting lines is not necessary with this

system. The Oxisorb® cartridge can absorb up to 15 s.c.c. of air contained in connected lines and still meet the specifications stated herein.

**Note: Oxisorb® systems remove a wide variety of other trace impurities. Please refer to the table on page 226.**

**FEATURES**

Effluents of < 0.1 ppm oxygen guaranteed  
Active disposable cartridge treats up to 2500 scf of gas  
Oxygen is removed without introduction of other impurities

**SPECIFICATIONS**

Maximum capacity per cartridge	2500 scf of gas
Discharge gas purity	O <sub>2</sub> < 0.1 ppm where inlet does not exceed 15ppm H <sub>2</sub> O < 0.5 ppm where inlet does not exceed 10ppm
Operating pressure	0 - 3000 PSIG
Operating temperature	0°C - 100°C
Maximum flow rate (to achieve the specified purity)	230 cf/hour
Inlet/Outlet connection	1/4" NPTF

**PRODUCT CODE**

S510-HPS  
S510-2C

**ITEM**

Oxisorb® HP-Stainless Steel with two cartridges  
Replacement active cartridges (box of 2)

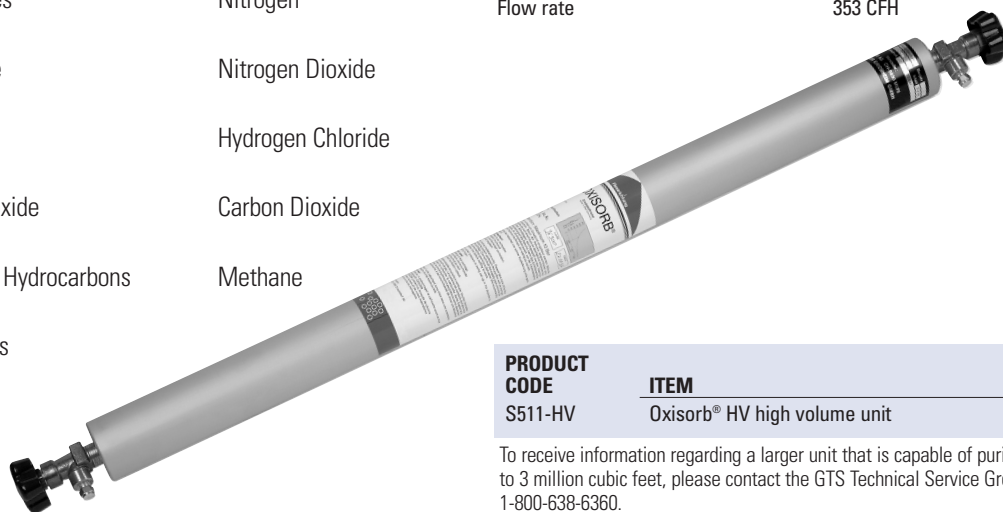
**OXISORB® HV - HIGH CAPACITY PURIFIER**

The Oxisorb® HV (high-volume) unit combines all of the unique benefits of the smaller Oxisorb® units for large scale applications. The HV is recommended for use with the following gases:

All Rare Gases	Nitrogen
Nitrous Oxide	Nitrogen Dioxide
Hydrogen	Hydrogen Chloride
Carbon Monoxide	Carbon Dioxide
All Saturated Hydrocarbons	Methane
All inert gases	

**SPECIFICATIONS**

Maximum capacity per cartridge	300,000 scf of purified gas
Discharge gas purity	O <sub>2</sub> < 0.1 ppm where inlet does not exceed 15 ppm H <sub>2</sub> O < 0.5 ppm where inlet does not exceed 10 ppm
Operating pressure	0 - 150 PSIG maximum
Operating temperature	0°C to 100°C
Inlet/Outlet fittings	1/4" NPTF
Dimensions	50" L x 2.8" Diameter
Net Weight	13 lbs.
Flow rate	353 CFH

**PRODUCT CODE**

S511-HV

**ITEM**

Oxisorb® HV high volume unit

To receive information regarding a larger unit that is capable of purifying up to 3 million cubic feet, please contact the GTS Technical Service Group at 1-800-638-6360.

**OXISORB PURIFICATION SYSTEMS**

This unique purification system was originally designed to remove impurities of Oxygen (O<sub>2</sub>) and moisture (H<sub>2</sub>O) down to less than 1. ppm. Newest research and improvement of the system show that Oxisorb removes a variety of other trace impurities as listed below.

GAS TO BE PURIFIED	O <sub>2</sub>	CO	CO <sub>2</sub>	H <sub>2</sub> S	SO <sub>2</sub>	Cl <sub>2</sub>	HCl	NO <sub>2</sub>	NO	NH <sub>3</sub>	Br <sub>2</sub>	H <sub>2</sub> O
Rare gases (Ne/Kr/Xe)	+	+	+	+	+	+	+	+	+	+	+	+
Nitrogen, Helium, Argon	+	+	+	+	+	+	+	+	+	+	+	+
Hydrogen	+	+	+	+	+	+	+	+	+	?	+	+
Carbon Monoxide	+	./.	-	+	+	+	-	+	+	+	+	+
Carbon Dioxide	+	+	+	+	+	+	+	+	+	+	+	+
Methane & Saturated Hydrocarbons	+	+	+	+	+	+	+	+	+	+	+	+
Nitrous Oxide	+	+	+	+	+	+	+	+	+	+	+	+
Nitric Oxide	+	-	-	+	+	-	-	+	./.	?	-	+
Hydrogen Chloride	+	+	+	+	+	+	./.	+	+	-	+	+
Ammonia	+	+	+	+	+	+	+	+	+	+	+	+
Fluoridated Olefines	+	+	+	+	+	+	+	+	+	+	+	+
Halocarbons	+	+	+	+	+	+	+	+	+	+	+	+

Gases to be purified should have less than 1000 ppm total impurities to avoid oversaturation of the cartridge too quickly. Unsaturated hydrocarbons cannot be passed through the Oxisorb Systems. One cartridge purifies approximately 300-400 cu. ft. of gas.

**SERIES 600 GAS PURIFIER**

The Series 600 Gas Purifier is ideal for removing moisture, oil and dust from gases.

This device can also serve as a means to precondition carrier gases used in gas chromatography and for general laboratory use.

**FEATURES**

Transparent acrylic tubing permits interior observation of the packing condition (the indicator changes from blue to brown when the packing needs to be replaced)  
Hand tightened end caps permit removal of the column for refilling without disconnecting the gas line (no tools required)  
Contains drierite and molecular sieve  
Pressure to 100 PSI is maintained by means of the "O" ring seals  
Base plate for bench to mounting available  
Gas purifier available in 120cc and 400cc capacity models  
Supplied with 1/4" compression fittings on inlet and outlet

**PRODUCT CODE****ITEM**

S600-1	120cc Gas purifier inline 1-1/2" x 14"
S600-1BP	120cc Gas purifier optional base plate
S600-2	400cc Gas purifier inline 2" x 16"
S600-2BP	400cc Gas purifier optional base plate
S600-RFK	Refill Kit (enough for 3 120cc refill)

**SERIES 601 AND 602 HYDROCARBON TRAPS**

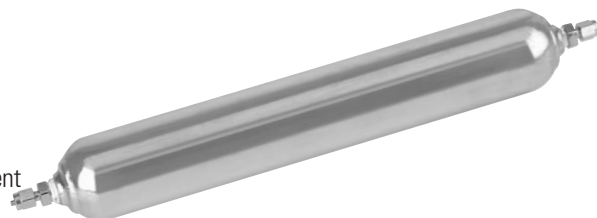
The Series 601 and 602 Hydrocarbon Traps are designed to remove gaseous hydrocarbons and low concentrations of other organic contaminants. This apparatus is recommended for flame ionization detectors in use with carrier and fuel gases.

The Series 601 consists of a non-indicating hydrocarbon trap with an operating pressure of up to 1000 PSIG. With 500cc of activated charcoal, this system provides extensive service life.

The Series 602 is designed as a two-part trap for indication of moisture depletion. 80 percent activated charcoal and 20 percent drierite make up its 70cc internal volume. Spring-loaded ends prevent gas channeling; allowing this unit to be mounted either vertically or horizontally. This unit should be replaced when the blue drierite turns brown.

**SPECIFICATIONS**

Maximum inlet pressure	1000 PSIG (Series 601) 100 PSIG (Series 602)
Purifier body	Anodized aluminum (Series 601) Aluminum and glass (Series 602)
Outlet filter	Stainless Steel
Dimensions	14.5" L x 2" Diameter

**PRODUCT CODE****DESCRIPTION**

S601-1	601 Hydrocarbon trap with 1/8" tube fitting
S601-2	601 Hydrocarbon trap with 1/4" tube fitting
S602-1	602 Hydrocarbon trap with 1/8" tube fitting
S602-2	602 Hydrocarbon trap with 1/4" tube fitting

**SERIES 605 HIGH PURITY FILTERS**

The Series 605 Filters feature a microporous fiberglass filter media, which is compatible with a wide range of gases. At 0.2 microns these filters are 100% efficient. The filter body is made of welded 316 stainless steel. A 316 stainless steel screen supports the filter element. The gas steam flows from outside the cylindrical element to inside and exits



through the center. All filters are leak tested after assembly and are capped and sealed in poly bags.

**SPECIFICATIONS**

Maximum inlet pressure	250 PSIG
Operating temperature	0° F to 165° F

PRODUCT CODE	END CONNECTIONS	MAX. FLOW (SLPM)*	DIMENSIONS (INCHES)
S605-1	1/4" NPTF	100	3.00 x 1.66
S605-2	1/2" NPTF	400	6.08 x 2.25
S605-3	1/4" Swagelok®	100	4.38 x 2.25
S605-4	3/8" Swagelok®	400	5.02 x 2.38

\*15 PSIG inlet, atmospheric outlet

**SERIES 650 25 MICRON FILTERS**

Series 650 Filters efficiently remove particles larger than 15 microns from gas and liquid streams. These filters offer easy disassembly when cleaning or replacing filter or gasket. They also protect sensitive instruments and valves from particle contamination.

**SPECIFICATIONS**

Length	2 in.
Hex	1 in.
Connections	1/4" NPTF
Maximum operating pressure	3000 PSIG

PRODUCT CODE	MATERIAL	FILTER
S650-B	Brass	Stainless Steel
S650-S	Stainless Steel	Stainless Steel
S650-FE	Replacement element	

### SERIES 610 MEMBRANE TYPE LINE FILTER FOR CORROSIVE AND NON-CORROSIVE GASES

The Series 610 filter is ideal for the control of particulate contamination in semiconductor manufacturing as well as other applications. It is compatible with most gases including  $\text{NH}_3$ ,  $\text{BCl}_3$ ,  $\text{SiH}_4$ ,  $\text{AsH}_3$ ,  $\text{PH}_3$ , and  $\text{B}_2\text{H}_6$ . The porous teflon® filter is non-migrating and offers a long service life.

The filter body consists of welded 316 stainless steel. All filters are leak tested after assembly and capped and sealed in poly bags. These filtration devices are available with Swagelok® or VCR® connections.

#### SPECIFICATIONS

Efficiency rating	100% at 0.01 micron
Filter medium	Teflon® supported by polypropylene end caps
Filter area	0.5 ft. sq.
Body	316 Stainless Steel
Seal	Teflon® encapsulated silicon "O" ring
Maximum inlet pressure	1000 PSIG
Maximum temperature	70°F (100°F at 250 PSIG)
Maximum flow	250 lpm at 15 PSIG



PRODUCT CODE	END CONNECTION	DIMENSIONS (L x D)
S610-1	1/4" Swagelok®	5.56" x 2.20"
S610-2	1/4" VCR® Male	5.62" x 2.20"

**SERIES 620 PURIFIERS**

The Series 620 purifier is used to remove oil, moisture, and particulate matter from most non-corrosive gas streams. This purifier can be used at a maximum inlet pressure of 3000 PSIG. When used with the 623 activated charcoal cartridge, it removes traces of acetone from acetylene used in atomic absorption. The 620 purifier consists of an aluminum container and a choice of three purifier cartridges individually packed in hermetically sealed cans to prevent deterioration. Dew points of up to -100°F (-75°C) are obtainable with the 621 or 622 cartridge.

**SPECIFICATIONS**

Maximum operating pressure	3000 PSIG
Maximum operating pressure for oxygen	500 PSIG
Temperature range	-40°F to 165°F
Pressure drop	0.2 PSI at 1 SCFM
Dimensions	5 3/4" L x 2" Diameter
Weight	1.2 lbs.
Connections	1/4" NPTF

**MATERIALS**

Container body	Aluminum
Sets	Bura N
Cartridges	621 - 13X Molecular Sieve, removes oil and water vapor 622 - 4A Molecular Sieve, removes water vapor 623 - Activated Charcoal, removes oil and heavy hydrocarbons 4x8 mesh

**PRODUCT CODE****ITEM**

S620-1	Series 620 Purifier container only
S621-1	621 Cartridge
S622-1	622 Cartridge
S623-1	623 Cartridge