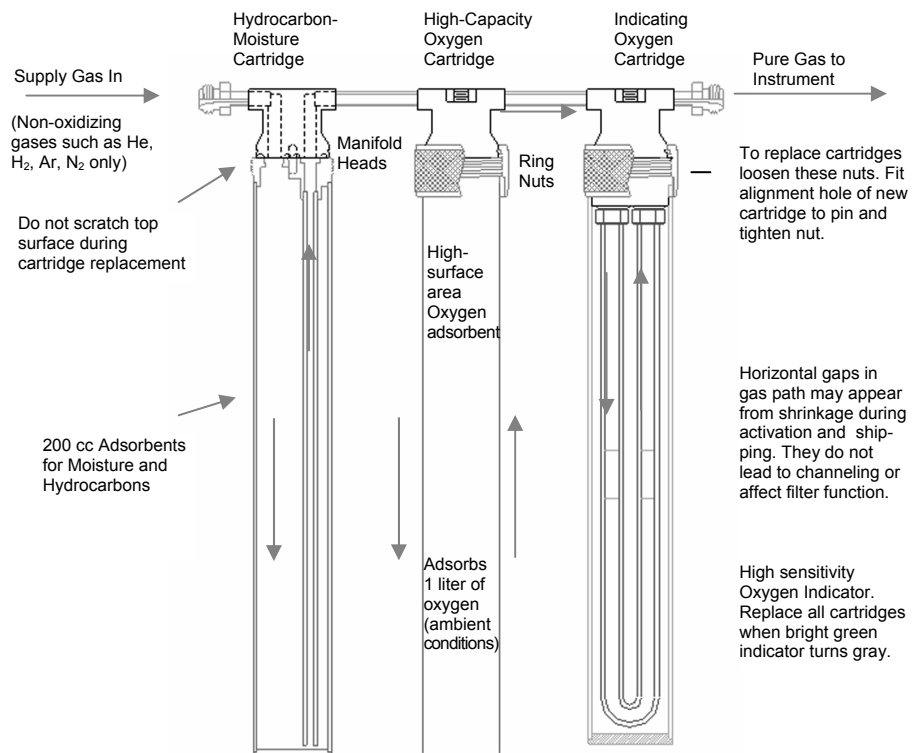




## WARNING

- Do not pass air or oxidizing gases in concentrations above 0.1% through this filter! The rapid oxidation of the active adsorbent in this filter can cause the filter bed to become extremely hot, resulting in danger of fire or burn injuries. Limited exposure of the filter to air during installation or cartridge replacement does not result in rapid reaction or dangerous heat generation.
- Maximum pressure 13.6 bar / 1360 kPa (200 psig). Do not exceed the pressure rating of this device! An overpressure condition can result in explosion of one or more of the filter components. Wear eye protection and use caution when working with pressurized systems.
- Special precautions might be required when using hydrogen. Consult local regulations and your company's safety procedures.



## PRODUCT INFORMATION

The CRS Gas Purification System will purify many cylinders of non-oxidizing gases such as He, Ar, N<sub>2</sub>, CH<sub>4</sub> or H<sub>2</sub>, depending on the purity. For example, using ordinary low-cost laboratory helium (99.997% pure) the cartridges will purify at least 18 tanks of 8.3 m<sup>3</sup> (292 cu.ft.) capacity.

The cartridges are designed to be regenerated when capacity is depleted. Change cartridges when the green indicator turns gray, or at least once each year if gas use is low.

**Installation** The CRS Gas Purification System should be located as close as possible to the instrument with which it will be used, with cartridges readily accessible and the indicating cartridge visible. The system comes complete with the following mounting hardware:

- 4 screws
- 4 plastic anchors
- 2 legs, for optional bench mounting
- 4 nuts (1/4-20) to attach legs to mounting bracket
- 4 self-adhesive pads for use under legs

**To mount on wall:** Position the purifier against the wall or vertical mounting surface and mark the locations of the four bracket holes. Wear eye protection while drilling. Drill 6.3mm (1/4") diameter holes to a depth of 3 cm (1 1/4") at the four positions and insert the four plastic anchors supplied. Mount the system to the wall with the four screws provided.

**To mount on bench:** Attach the two legs to the manifold bracket using the nuts provided. Place the purifier in the desired location. If it rocks slightly the legs can be adjusted by loosening and retightening the nuts. Self-adhesive pads are provided for placement under the legs. It may also be permanently bolted to a bench through the holes in the bottom of the legs.

**Gas Connections:** The System is delivered in the active state, filled with high-purity helium. It is recommended to purge the system with carrier gas before instrument operation. Use new, pre-cleaned tubing for the gas line. We recommend that freshly-cut tubing ends and new nuts and ferrules be used for all connection points.

- Set the source gas to a low flow rate (10 - 30 cc/min).
- Remove the brass sealing plugs from the fittings at both ends of the gas purifier system.
- Using the stainless steel ferrules supplied, connect the source gas line to the purifier. Tighten the nuts finger-tight.
- While holding the fitting body steady with a backup wrench, use a wrench to turn the nuts an additional 3/4 turn past finger-tight (for 1/8" tubing connections) or 1 1/4 turn past finger-tight (for 1/4"



**Figure 1.** Replacing a cartridge. Loosen the ring nut, then remove the depleted cartridge. To re-install cartridge, locate the alignment pin and hole; place cartridge on the pin. Be careful not to scratch the cartridge top. Tighten the ring nut, hand-tight only.

tube connections).

- Attach the source gas line to the purifier inlet.
- Attach the filter system outlet to the instrument gas inlet.
- Allow 1 - 2 liters of gas to flow through the filter and instrument before operation.

The filter system has a very high capacity for oxygen. The momentary exposure of the System to air during installation or cylinder changes will not significantly deplete the filter. **Warning:** If you are using hydrogen or hazardous gas, additional special procedures may be called for. Consult your company's safety procedures.

**Regeneration Service:** The CRS Gas Purification System can be regenerated numerous times, however, sulfur compounds permanently poison the oxygen catalyst's ability to adsorb oxygen. Please return the cartridges to CRS for regeneration.

**Cartridge Replacement:** When the green indicator turns gray, or annually if gas usage is low, all cartridges should be replaced. (See figure 1) Depressurize unit. For each cartridge: unscrew the ring nut, remove old cartridge, and replace with new cartridge. If the o-rings in the manifold head appear worn, replace them with new o-rings (provided with each replacement cartridge.)

## REORDER INFORMATION

Description	Item No.
Gas Purification System, 1/8" fittings, Complete*	202800
Gas Purification System, 1/4" fittings, Complete*	202804
Hydrocarbon/Moisture Replacement Cartridge	202830
High Capacity Oxygen Replacement Cartridge	202810
Indicating Oxygen Replacement Cartridge	202820
Replacement Cartridge Set (1 each for Hydrocarbon/Moisture, Oxygen and Indicating Oxygen)	202850
Regeneration Service, Cartridge Set (1 each Hydrocarbon/Moisture, Oxygen and Indicating Oxygen)	202852
Regeneration Service, Hydrocarbon/Moisture Cartridge	202873
Regeneration Service, High Capacity Oxygen Cartridge	202871
Regeneration Service, Indicating Oxygen Cartridge	202872
Bypass Accessory	202840

\* Complete System includes manifold with one cartridge each for Hydrocarbon/Moisture, High-Capacity Oxygen and Indicating Oxygen, fittings; mounting hardware and optional legs. CRS U.S. Patents #D357,200; D360,265 and D364,809. Other U.S. and International patents pending.

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