

Hydrogen Sulfide Removal Column

Quick and Simple H₂S Removal



- ➔ High Capacity
- ➔ Indicator Included
- ➔ Very Low Maintenance
- ➔ Disposable or Refillable Options

Hydrogen Sulfide Removal Column (HSRC)

Accumulation of hydrogen sulfide (H₂S) in Anaerobic Microbiology Chambers can result in damage to electronics and decreased catalyst lifetime. The Coy Hydrogen Sulfide Removal Column (HSRC) provides maintenance-free, high capacity removal of undesirable hydrogen sulfide (H₂S) by recirculating the Chamber atmosphere through the Column.

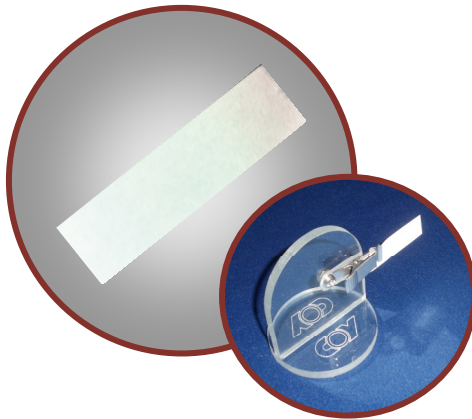


The HSRC's **unique layering of H₂S removal media** acts via a combination of adsorption and chemisorption. Having two media maintains performance under a broad range of operating conditions since the mechanism-of-action/performance of individual media depends on a complex set of variables. An integral airflow system, combined with the column design, ensures required air flow conditions to take advantage of the high H₂S removal capacity with single-pass H₂S clearance.

- Operates Horizontally or Vertically
- Two replacement filter cartridge types: **user refillable** or **pre-filled disposable**

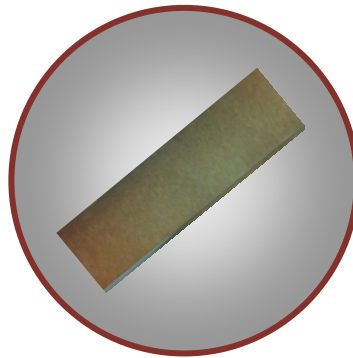
NOTE: All new units are equipped with the refillable cartridge as standard

Indicator Strips eliminate guess work of when to change the media



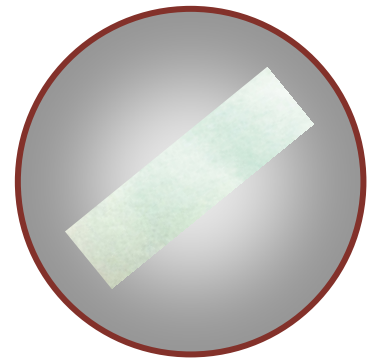
Indicator strip that has not been exposed to H₂S - white.

Strips placed under the column using the holder included with the HSRC



Strip exposed to H₂S – brown.

The indicator, specific for H₂S, detects cumulative levels and is specifically designed to work without wetting. Above is typical cumulative color change seen during average chamber usage in Figure 1 with *Clostridium difficile*.



Strip under column used to signal need for media replacement

The above strip was under a column run in the chamber used as shown in Figure 1. As no H₂S is indicated to be passing through the column, the column still has H₂S removal capacity even after 8 months.

Hydrogen Sulfide Removal Column (HSRC)

Unlike other removal systems or methods, the HSRC:

- Provides a high H₂S removal capacity
- Removes other volatile byproducts of microbial metabolism
- Functions over a wide range of environmental conditions
- Requires no maintenance for months
- Includes indicator to signal when media change is needed
- Two refill choices: user refillable (media only) & disposable pre-filled cartridge
- Can be recharged without disturbing the anaerobic atmosphere
- Two media formats: trilayer (standard) and bilayer



Maintenance Free for 8 months & still going

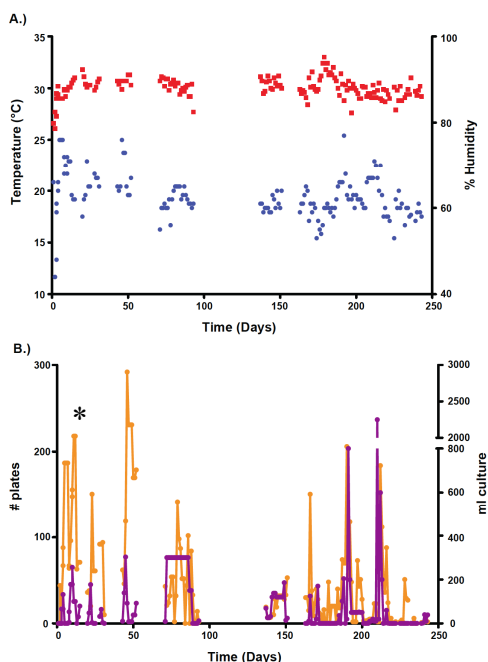


Figure 1: Chamber conditions & usage during prototype column testing.

Clostridium difficile grown with cysteine-containing media.

(A) Chamber conditions. Temperature (red symbols) remained relatively constant throughout the test period while humidity (blue symbols) varied somewhat. Peaks in humidity correlate to peaks in chamber usage as high numbers of plates can lead to a significant increase in humidity. A dehumidifier was run constantly throughout this testing to keep humidity levels from reaching the condensation point.

(B) Chamber usage. As a measure of usage, and therefore potential H₂S production, the total number of 100mm plates (orange symbols) and ml of culture (purple symbols) was recorded daily. While usage varied significantly, levels of H₂S produced throughout the testing period were relatively high.

Capacity remained after ~8 months of use (see previous page).

* HSRC activated on day 11.

Results from initial prototype presented at Anaerobe 2012 on July 1st in San Francisco CA, USA. Poster: Device for Hydrogen Sulfide Removal in Anaerobic Chambers. P.E. Carlson (Univ. Michigan) and K.E. Studer-Rabeler (Coy)

Hydrogen Sulfide Removal Column



Two Media Formats

Trilayer - Standard

Bilayer – with added capacity for higher molecular weight hydrocarbons and other metabolites. Ideal for mixed cultures in continuous bioreactors



Media Replacement Options

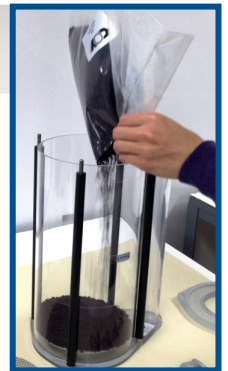


Disposable Filter

Purchase factory filled cartridge

Media Refill

Refill the cartridge in your lab
With media packets
(Bilayer or Trilayer available)



Full Systems		
8703000	HSRC with Trilayer	110v
8703070		220v
8703040	HSRC with Bilayer	110v
8703080		220v
Options		
8703036	Cradle for horizontal placement (<i>fits on Coy 28" shelf</i>)	
2900000	Meter for Airflow Measurement	
Consumables		
8703003	Disposable Cartridge, Trilayer Replacement	
8703090	Disposable Cartridge, Bilayer Replacement	
8703034	Trilayer Media Refill (<i>Media only</i>)	
8703035	Bilayer Media Refill (<i>Media Only</i>)	
8703002	H ₂ S Indicator Strips (pkg. of 25)	



Dimensions: 71.1cm x 27.9cm / 28" x 11" dia.

10.14.2013